The Visual Non-Glossary™

TEKS Alignment for VNG Vocabulary Words

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How to use this document

This document lists all VNG vocabulary words and their vertical K-12 alignment across the TEKS. Navigate to a subject below, then click on a word to see which TEKS standard(s) it aligns to.

Science Words | Social Studies Words | Math Words

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
(dynamic) equilibrium							6			BI		
0th law of thermodynamics											CH	
2nd law of thermodynamics											CH	
3rd law of thermodynamics											CH	
10% Energy Rule								7		BI		
abiotic						5	6					
absolute magnitude									8			
absorb/absorption						5						
absorption spectrum												PH
acceleration									8			PH
acceleration-time graph												PH
acceleration due to gravity							6		8			
acid									8		CH	
acid-base reaction											CH	
activation energy										BI		
active transport										BI		
activity			2									
adapt/adaptation						5	6	7	8	BI		
adhesion									8		CH	
adult		1	2	3								
agitation								7			CH	
air	K	1	2		4							
air mass									8			
alkali earth metal											CH	
alkali metal											CH	
alkaline											CH	
allele									8	BI		
alpha particle											CH	
amino acid										BI		
ammeter												PH
amplitude									8			PH

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
anaerobic cellular respiration										BI		
anatomical homology										BI		
ancestor								7		BI		
angular velocity												PH
animal	K	1	2	3	4							
animal cell										BI		
Animalia								7				
antibiotic										BI		
anticodon										BI		
antinode												PH
apparent magnitude									8			
appearance	K		2		4							
appendage	K	1										
applied force							6		8			PH
aquarium		1										
aqueous												
aqueous (aq)											CH	
aquifer					4	5		7				
Archaea/archaebacteria								7				
Arrhenius acid/base											CH	
artificial reef								7				
artificial selection/selective breeding								7		BI		
asexual reproduction								7				
asteroid								7				
asthenosphere							6					
atmosphere				3	4		6	7	8			
atmospheric nitrogen										BI		
atom							6	7	8		CH	
atomic mass											CH	
atomic number											CH	
atomic radius											CH	

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
ATP										BI		
attract/attraction	K	1	2	3								
Aufbau principle											CH	
autotroph							6	7		BI		
average					4							
average atomic mass (amu)											CH	
average speed								7				PH
average velocity												PH
Avogadro's law											CH	
Avogadro's number											CH	
axis						5	6					
back and forth		1										
bacteria							6	7				
Bacteria (kingdom)								7				
bacteriophage										BI		
balanced chemical equation											CH	
balanced force						5	6	7	8			PH
base									8		CH	
basic need	K	1	2					7				
battery					4	5						
behavior			2	3	4	5	6					
behavioral adaptation									8			
benefit/beneficial						5						
benign										BI		
beta particle											CH	
Big Bang theory									8			
bigger/larger	K	1	2									
biodiversity									8			
biofuels							6					
biogeography										BI		
biomass							6		8			

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
biomolecule/macromolecule										BI		
biosphere							6	7				
biotic						5	6					
body covering	K	1	2									
Bohr model											CH	
Boyle's Law											CH	
brightness/luminosity	K								8			
brittle							6					
Brønsted-Lowry acid/base											CH	
buoyancy												
calm	K	1	2									
calorimetry											CH	
camouflage					4				8			
cancer/tumor										BI		
canyon						5						
capillary action											CH	
capsid										BI		
carbohydrate										BI		
carbon							6			BI		
carbon cycle									8	BI		
carbon dioxide					4			7		BI		
carbon fixation									8	BI		
caregiver		1										
carnivore					4	5		7		BI		
catalyst										BI	CH	
cathode ray											CH	
celestial body									8			
cell							6	7	8	BI		
cell cycle										BI		
cell differentiation										BI		
cell membrane							6		8	BI		

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
cellular respiration (aerobic)										BI		
cell wall							6		8	BI		
Celsius (°C)				3	4							
cementation						5	6					
centriole										BI		
centripetal acceleration												PH
change	K	1	2									
characteristic	K	1	2	3				7				
Charles' law											CH	
chemical change							6	7	8			
chemical energy						5	6				CH	PH
chemical formula								7	8		CH	
chemical nomenclature											CH	
chemical property							6		8		CH	
chemical reaction							6		8		CH	
chemical symbol								7	8			
chlorophyll										BI		
chloroplast									8	BI		
chromatid										BI		
chromosomal mutation										BI		
chromosome									8	BI		
circuit					4	5						PH
circulatory system								7		BI		
cladogram								7		BI		
clarity	K	1										
classify/classification		1	2			5		7				
clay												
clear	K	1	2									
climate					4				8			
climax community									8			
closed/complete circuit					4	5						PH

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
clothing		1	2									
cloud coverage			2	3	4							
cloudy	K	1	2									
coal					4							
codominance										BI		
codon										BI		
coefficient									8			
cohesion									8		CH	
cold	K	1	2									
cold front									8			
color/coloration	K	1	2	3	4							
combine/combination			2	3								
combustion reaction											CH	
comet								7				
commensalism							6			BI		
community				3	4		6			BI		
compaction						5	6					
compete/competition						5	6			BI		
composition								7			CH	
compositional layers							6					
compound								7	8		CH	
concave lens												PH
concentration gradient										BI		
condensation				3	4	5						
conduction/conduct						5		7			CH	PH
conductivity							6					
conductor					4	5						PH
conservation/conserve			2	3	4	5	6					
constant												PH
constant speed							6	7	8			
constant velocity							6	7	8			PH

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
constructive/positive interference												PH
consumer			2	3	4	5		7		BI		
Continental Drift theory								7				
convection								7			CH	
convection current									8			
convergent boundary								7				
convex lens												PH
cool/cooling	K	1		3								
Coriolis effect									8			
Coulomb's constant												PH
Coulomb's law												PH
covalent bond											CH	
crest												PH
crossing over										BI		
crust							6	7				
cuticle										BI		
cycle	K	1	2	3	4	5						
cytoplasm									8	BI		
Dalton's law of partial pressure											CH	
daughter cell										BI		
day/night	K	1				5						
day/night cycle	K	1				5						
decay/decompose/decomposition				3	4	5						
decomposer				3	4	5		7		BI		
decomposition reaction											CH	
decrease/decreasing												
defense/protection				3	4					BI		
deforestation									8			
dehydration synthesis										BI		
delta					4	5						
dense/density					4	5	6					

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
deoxyribose sugar										BI		
depend/dependent/dependence	K	1	2									
deposition					4	5	6					
descend/descendant/descent								7		BI		
destructive/negative interference												PH
developmental homology										BI		
diffraction												PH
diffusion										BI		
digestive system								7		BI		
dihybrid cross										BI		
dilute/dilution											CH	
diploid										BI		
displacement								7				PH
dissolve/dissolution					4	5		7			CH	
distance								7				PH
divergent boundary								7				
diversity/diverse								7	8	BI		
DNA (deoxyribonucleic acid)								7	8	BI		
DNA replication										BI		
DNA virus										BI		
dominant									8	BI		
Doppler effect												PH
dormancy				3					8			
double-replacement reaction											CH	
double helix										BI		
drought				3								
ductile/ductility							6					
earthquake				3				7				
eat/eating		1										
ecological succession									8			
ecosystem			2	3	4	5	6	7	8	BI		

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
egg		1	2	3								
elastic collision												PH
electric/electrostatic force												PH
electrical charge											CH	PH
electrical energy					4	5	6					
electric current					4	5	6					PH
electric field												PH
electricity												
electric motor												PH
electrolyte											CH	
electromagnetic radiation									8		CH	PH
electromagnetic spectrum									8		CH	PH
electron											CH	
electron cloud											CH	
electron configuration											CH	
electronegativity											CH	
electron orbital (s,p,d,f)											CH	
element							6	7	8		CH	
elliptical orbit								7				
El Niño									8			
emission spectrum												PH
empirical formula											CH	
endocrine system								7		BI		
endoplasmic reticulum (ER)										BI		
endothermic											CH	
energy				3	4	5					CH	PH
energy conversion/transformation						5	6			BI		PH
energy level											CH	
energy pyramid								7		BI		
enthalpy (H)											CH	
environment	K		2	3	4	5			8	BI		

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
environmental change				3				7		BI		
environmental factor										BI		
enzyme										BI		
enzyme inhibitor										BI		
equal force						5	6	7	8			PH
equator							6					
equinox							6					
erosion					4	5	6					
erupt/eruption				3								
eukaryote							6	7		BI		
evaporation				3	4	5		7				
evolution										BI		
excretion								7				
excretory system								7		BI		
exothermic											CH	
external							6		8			
extinct/extinction									8			
eye	K	1	2									
Fahrenheit (°F)				3								
fall/autumn	K	1										
family/group (Periodic Table)											CH	
fast/slow		1										
fatty acid										BI		
fault								7				
feathers	K	1	2									
feature							6		8			
feedback loop/mechanism										BI		
fin	K	1	2									
fission											CH	
flexibility			2	3								
float				3								

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
flood			2	3								
flow												
flower	K		2	3								
flow of energy		1	2		4	5		7		BI		
flow of matter					4			7		BI		
focal length												PH
focus/focal point												PH
food	K	1	2									
food chain		1	2	3		5		7		BI		
food web					4	5		7	8	BI		
force		1	2	3	4	5	6		8			PH
formula mass											CH	
fossil				3	4			7		BI		
fossil fuel						5						
frame of reference												PH
free-body force diagram												PH
freeze/freezing	K	1	2			5						
frequency									8		CH	PH
freshwater												
friction					4	5	6		8			PH
frictionless									8			PH
fruit	K		2	3								
function				3	4	5	6	7	8			
Fungi								7				
fur	K	1	2									
fusion											CH	
galaxy									8			
gamete/sex cell										BI		
gamma ray											CH	PH
Gay-Lussac's law											CH	
gene									8	BI		

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
gene expression										BI		
gene flow										BI		
gene frequency										BI		
generation								7	8			
generator												PH
genetic code										BI		
genetic drift										BI		
genetic material										BI		
genetics/heredity					4				8			
genome										BI		
genotype									8	BI		
genus								7				
geosphere							6					
geothermal							6					
geotropism										BI		
glacier					4	5						
glucose										BI		
gold-foil experiment											CH	
Golgi body/apparatus										BI		
graph			2									
gravel												
gravitational constant												PH
gravitational force												PH
gravity				3	4	5	6	7	8			PH
greenhouse gases									8			
groundwater						5		7				
grow/growth					4							
guard cell										BI		
habitat	K	1	2		4		6	7	8	BI		
hail			2									
hair	K	1	2									

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Science Vocabulary Words

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
half-life											CH	
halogen											CH	
haploid										BI		
head	K	1	2									
heat		1	2	3								
heat/heating		1	2	3								
heavy/heavier	K	1	2									
hemisphere							6					
herbivore					4	5		7		BI		
Hertzsprung-Russell diagram									8			
heterogeneous							6		8			
heterotroph							6	7		BI		
heterozygous									8	BI		
hibernation				3		5			8			
homeostasis										BI		
homogeneous							6		8			
homologous chromosome										BI		
homology										BI		
homozygous									8	BI		
Hooke's law												PH
host										BI		
hot	K	1	2									
humidity					4				8			
humus												
Hund's rule											CH	
hurricane			2						8			
hydrogen bond										BI	CH	
hydrogen ion (H+)											CH	
hydrophilic										BI		
hydrophobic										BI		
hydropower							6					

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
hydrosphere							6		8			
hydroxide ion (OH-)											CH	
icy		1	2									
ideal gas law											CH	
igneous rock							6					
immune cells										BI		
immune system										BI		
impact										BI		
imprint				3	4							
impulse												PH
incomplete dominance										BI		
increase/increasing												
inelastic collision												PH
inertia									8			PH
infect										BI		
ingredient				3		5						
inherited trait					4					BI		
inner core							6					
inner planet				3								
instantaneous velocity												PH
instinctual behavioral trait						5						
insulate/insulator/insulation					4	5						PH
integumentary system								7		BI		
interaction						5				BI		
interdependence						5						
interphase										BI		
invasive species										BI		
inverse-square law												PH
ion											CH	
ionic bond											CH	
ionization											CH	

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
ionization energy											CH	
isolation										BI		
isotope											CH	
jet stream									8			
joule (J)											CH	
Kelvin (K)											CH	
kinetic energy							6	7			CH	PH
kinetic molecular theory											CH	
lake		1										
landform					4	5						
landslide				3								
La Niña									8			
larva			2	3								
lava							6					
Law of Action-Reaction (Newton's 3rd Law)							6		8			PH
Law of Conservation of Energy/1st law of thermodynamics							6				CH	PH
Law of Conservation of Mass					4	5			8		CH	
law of conservation of momentum												PH
law of definite proportions											CH	
Law of Force and Acceleration (Newton's 2nd Law)									8			PH
law of independent assortment										BI		
Law of Inertia (Newton's 1st Law)								7	8			PH
law of multiple proportions											CH	
law of segregation										BI		
leaf/leaves	K		2									
leaf shape	K		2									
learned behavioral trait						5						
length			2									
lens						5						PH
Lewis dot structure											CH	

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
life cycle	K	1	2	3								
light	K		2									
light/lighter	K	1	2									
light energy				3		5	6					
light wave									8			PH
limb	K	1	2									
limiting reactant/reagent											CH	
lipid										BI		
lithosphere							6	7				
living		1	2	3	4							
loam												
location		1										
long-term environmental change									8			
longitudinal wave							6					PH
loudness			2									
lunar cycle					4		6					
luster							6					
lysogenic cycle										BI		
lysosome										BI		
lytic cycle										BI		
magma							6	7				
magnet	K	1	2									PH
magnetic field												PH
magnetic force												PH
magnetism				3	4	5	6					PH
magnitude												PH
main group											CH	
malignant										BI		
malleability/malleable							6					
mantle							6					
mass				3	4	5	6		8		CH	

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
mass number											CH	
material	K	1	2	3								
matter		1	2	3	4	5		7				
mechanical energy				3	4	5	6					PH
mechanical layers							6					
medium						5						PH
meiosis										BI		
melt/melting	K	1	2			5						
mesophyll cell										BI		
metabolism/metabolic activity								7				
metal							6				CH	
metallic bond											CH	
metalloid							6				CH	
metamorphic rock							6					
metamorphosis				3								
meteor								7	8			
microorganism										BI		
microwave												PH
mid-ocean ridge								7				
migration				3		5			8			
mimicry					4				8	BI		
mirror						5						
mitochondria/mitochondrion									8	BI		
mitosis										BI		
mixture				3	4	5	6		8			
model				3			6					
molarity											CH	
molar mass											CH	
molar ratio											CH	
mole											CH	
molecular homology										BI		

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
molecule							6	7		BI	CH	
momentum (p)												PH
monohybrid cross										BI		
monomer										BI		
mortality rate										BI		
motion/move/movement		1	2	3	4	5		7	8			PH
mountain range/chain								7				
mouth	K	1	2									
mRNA										BI		
multicellular							6	7				
muscular system								7		BI		
mutation								7	8	BI		
mutualism							6			BI		
native										BI		
natural disaster/hazard									8			
natural gas					4							
natural selection							6	7	8	BI		
nature/natural		1	2	3		5						
neap tide							6					
needs												
nervous system								7		BI		
net force							6		8			PH
net ionic equation											CH	
neutralization reaction											CH	
neutron											CH	
Newton (N)							6		8			PH
niche						5		7				
nitrogen cycle										BI		
nitrogen fixation										BI		
nitrogenous base										BI		
noble gas											CH	

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Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
node												PH
non-living		1	2									
non-Mendelian										BI		
non-random mating										BI		
non-renewable resource					4		6					
nondisjunction										BI		
nonelectrolyte											CH	
nonmetal							6				CH	
normal force							6					PH
nuclear equation											CH	
nuclear force												PH
nuclear power							6					
nuclear stability											CH	
nucleic acid										BI		
nucleotide										BI		
nucleus (atomic)											CH	
nucleus (cellular)							6	7	8	BI		
nutrient absorption										BI		
nutrients	K		2		4							
nymph			2									
ocean		1				5		7				
ocean basin								7				
ocean tide							6					
octet rule											CH	
offspring	K	1			4		6	7	8	BI		
Ohm's law												PH
omnivore					4	5		7		BI		
one-dimensional												PH
open circuit					4	5						PH
orbit			2	3	4		6	7				
orbital diagram											CH	

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Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
organ								7		BI		
organelle							6		8	BI		
organism	K	1	2	3	4	5	6	7	8	BI		
organ system								7		BI		
osmosis										BI		
outer core							6					
outer planet				3								
overcast			2									
overpopulation												
oxidation-reduction reaction											CH	
oxidation number											CH	
oxygen								7		BI		
parallel circuit												PH
parasitism/parasite							6			BI		
parent	K	1	2		4							
particle		1			4	5		7			CH	
partly cloudy	K	1	2									
passive transport										BI		
path					4							
pathogen										BI		
pattern	K	1	2		4							
Pauli exclusion principle											CH	
pendulum												PH
percent composition											CH	
percent yield											CH	
percolate								7				
period (Periodic Table)											CH	
period (physics)												PH
periodic law											CH	
Periodic Table of the Elements							6	7	8		CH	
perish				3								

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
petroleum/oil					4							
pH									8		CH	
phase										BI		
phenotype									8	BI		
phloem										BI		
phosphate										BI		
phospholipid										BI		
photoelectric effect												PH
photosynthesis					4				8	BI		
phototropism										BI		
phylogenetic										BI		
physical change		1	2			5		7				
physical property			2	3	4	5	6	7			CH	
physical state			2	3	4	5	6				CH	
physiological adaptation									8			
pioneer species									8			
planet				3				7				
plant	K	1	2		4							
Plantae								7				
plant cell										BI		
pOH											CH	
polarity											CH	
polarization												PH
pollution								7				
polyatomic ion											CH	
polymer										BI		
polypeptide										BI		
pond		1										
population				3	4	5	6		8	BI		
porous/porosity					4							
position			2	3	4	5		7				PH

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
position-time graph												PH
potential energy							6				CH	PH
power												PH
precipitate							6				CH	
precipitation		1	2	3	4	5		7				
precipitation reaction											CH	
predation							6			BI		
predator/prey					4	5				BI		
pressure						5	6		8		CH	
pressure system									8			
prevailing winds									8			
primary consumer								7		BI		
primary succession									8			
prism						5						
probability										BI		
producer			2	3	4	5		7		BI		
product		1	2	3					8	BI	CH	
prokaryote							6	7		BI		
property	K	1				5						
proportional											CH	PH
protein										BI		
protist/Protista								7				
proton											CH	
proximity								7				
pull	K	1	2	3	4	5						
pupa			2	3								
purebred									8			
pure substance							6					
push	K	1	2	3	4	5						
quantum											CH	PH
radiant/solar energy					4	5			8	BI		

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
radiation								7			CH	
radioactive decay											CH	
radio wave									8			PH
rain	K	1	2									
rain gauge			2	3								
rainy	K	1	2									
reactant									8	BI	CH	
reactivity/reactive											CH	
real image												PH
recessive									8	BI		
recombination										BI		
recycle/recycling			2		4							
reflection						5						PH
refraction						5						PH
regulation										BI		
relationship				3								
renewable resource					4		6					
repel				3								
reproduce/reproduction		1								BI		
reproductive fitness									8	BI		
reproductive fitness/success									8	BI		
reproductive system								7		BI		
resemble	K	1	2									
resistance (biological)										BI		
resistance (electrical)												PH
resistor												PH
resonance												PH
resource			2	3			6			BI		
respiratory system								7		BI		
response										BI		
retain					4							

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
revolve/revolution				3	4		6	7				
ribosome									8	BI		
river		1	2									
RNA (ribonucleic acid)										BI		
RNA virus/retrovirus										BI		
rock	K	1	2	3	4							
rock cycle							6					
role						5						
roll/rolling			2									
roots	K		2							BI		
rotate/rotation				3	4	5	6	7				
round and round		1										
runoff					4							
saltwater												
sand												
sand dune			2			5						
sanding			2									
satellite												
saturated solution											CH	
scalar												PH
scales	K	1	2									
seafloor spreading								7				
seasons	K	1			4		6					
secondary consumer								7		BI		
secondary succession									8			
sediment					4	5	6					
sedimentary rock						5	6					
seed	K		2	3								
seedling	K		2	3								
semi-permeable										BI		
senses	K											

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
separate					4							
sequence					4					BI		
series circuit												PH
sexual reproduction								7				
shadow						5						
shape	K	1	2									
shelter	K	1	2									
shoot system										BI		
short-term environmental change												
silt												
single-replacement reaction											CH	
sink				3								
size	K	1	2									
skeletal system								7		BI		
skin	K	1	2									
sky	K		2									
sleet	K		2									
slide/sliding			2									
small/smaller												
snow	K	1	2									
snowy	K	1										
soil	K	1	2	3								
solar power							6					
solar system				3				7				
solstice							6					
soluble/solubility						5					CH	
solute								7			CH	
solution					4	5	6	7			CH	
solvent								7			CH	
somatic cell										BI		
sound energy			2	3	4	5						

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
sound wave												PH
species				3		5	6	7	8	BI		
specific heat (cp)											CH	
spectral class									8			
speed		1					6	7	8			PH
spin											CH	
spindle fiber										BI		
spinning			2									
spring	K	1										
spring tide							6					
stability/stable									8	BI		
stage		1	2	3								
standard temperature and pressure (STP)											CH	
standing wave												PH
star	K		2	3					8			
star evolution									8			
stasis										BI		
state of matter			2	3	4	5	6				CH	
stem	K		2							BI		
stimulus/stimuli										BI		
stoma/stomata										BI		
storm system									8			
straight line		1										
stream		1										
structural adaptation									8			
structure	K	1	2	3	4	5	6		8			
subatomic particle											CH	
subduction zone								7				
subscript								7	8		CH	
substance						5	6					
substrate										BI		

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
summer	K	1										
sunlight	K	1	2									
sunny	K	1										
sunrise/sunset						5						
supersaturated solution											CH	
surface area								7			CH	
surface temperature									8			
surface tension									8		CH	
surface water								7				
survive/survival	K		2	3	4	5	6			BI		
sustainability									8			
switch					4	5						
symbiosis/symbiotic relationship							6			BI		
synthesis										BI		
synthesis reaction											CH	
system		1	2			5						PH
tail	K	1	2									
tangential velocity												PH
taxon/taxa/taxonomic group								7		BI		
tectonic plates								7				
temperature	K	1	2	3	4	5		7				
terrarium		1										
tertiary consumer								7		BI		
texture	K	1	2	3	4	5						
thaw/thawing						5						
thermal energy				3	4	5	6	7	8		CH	PH
thigmotropism										BI		
thrive				3								
tilt							6					
tissue							6	7		BI		
titration											CH	

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
tolerance (ecological)									8			
topsoil												
trait							6	7	8	BI		
transcription										BI		
transfer		1	2					7	8		CH	
transform boundary								7				
transformer												PH
transition metal											CH	
translation										BI		
transmit/transmission						5						
transpiration										BI		
transport										BI		
transverse wave							6		8			PH
tRNA										BI		
trophic level								7		BI		
trough												PH
tsunami								7				
two-dimensional												PH
unbalanced force						5	6	7	8			PH
unequal force						5	6	7	8			PH
unicellular							6	7				
universal gravitation												PH
unsaturated solution											CH	
up and down		1										
uracil										BI		
urbanization									8			
useful	K	1	2									
vaccine										BI		
vacuole									8	BI		
valence electron											CH	
valley						5						

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
variation							6	7	8	BI		
vasculature										BI		
vector												PH
velocity							6	7	8			PH
velocity-time graph												PH
vesicle										BI		
vestigial structure										BI		
vibration			2			5						
virtual image												PH
virus										BI		
volcano				3				7	8			
voltage												PH
voltmeter												PH
volume			2		4	5						
VSEPR theory											CH	
warm	K	1										
warm front									8			
water	K	1	2		4							
water cycle					4	5						
watershed								7				
water table								7				
water vapor				3		5						
wave					4							
wave-particle duality												PH
wavelength									8		CH	PH
wave speed												PH
weather	K	1	2	3	4	5			8			
weathering				3	4	5	6					
weather map									8			
wind	K	1	2	3								
wind condition			2									

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Science Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	BI	CH	PH
wind direction			2	3								
windsock			2									
wind vane			2	3								
wing	K	1	2									
winter	K	1										
work												PH
work-energy theorem												PH
x-ray											CH	PH
xylem										BI		
year		1										
yield									8		CH	
young	K	1	2									
zigzag		1										

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
10 less		1	2									
10 more		1	2									
100 less			2									
100 more			2									
a.m.			2									
about/approximately		1	2	3	4	5						
absolute value							6				A2	
acute angle					4	5	6					
addition	K	1	2									
additive pattern				3		5	6					
additive pattern/relationship				3		5	6					
adjacent angle					4		6	7	8			GEOM
angle					4			7				GEOM
annual salary							6					
area			2	3	4	5	6	7	8			GEOM
area model				3								
area model for division				3	4	5						
area model for multipication				3	4	5						
area model for multiplication				3	4	5						
area of the base						5	6	7	8			GEOM
array				3	4							
asset								7				
association/correlation									8	A1		
association/correlation/trend									8	A1		
associative property							6					
asymmetrical							6	7				
asymptote										A1	A2	
attribute	K											
availability of resources				3								
axis/axes						5	6					
axis/line of symmetry					4	5				A1	A2	GEOM

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
balanced budget						5						
bankruptcy							6					
bar graph		1	2	3		5		7				
base												
base/Base			2				6	7			A2	GEOM
benchmark fraction					4	5	6					
benchmark percent							6					
billions					4	5						
bills				3								
binomial										A1		
borrow				3	4		6					
borrower							6					
borrowing			2									
box plot							6	7				
bracket						5						
budget						5		7				
cardinal directions						5						
category	K	1	2	3								
causation										A1		
cent (¢)	K	1	2									
center							6	7				
center mark					4							
center of dilation									8			GEOM
center of rotation									8			
certificate of deposit					4							
charity		1		3								
check						5						
circle	K	1	2	3								GEOM
circle graph								7				
circumference								7	8			GEOM
clock		1	2									

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
clockwise/counter-clockwise									8			
close to	K	1	2	3	4	5						
coefficient							6	7	8	A1	A2	
coin	K											
college							6					
column				3								
common denominator					4	5					A2	
commutative property							6					
comparing		1	2	3	4							
compatible number				3	4	5						
complement								7				GEOM
complementary angles								7	8			
complete the square										A1	A2	
compose	K	1										
composite figure								7				GEOM
composite number						5						
compound event								7				GEOM
compound interest								7	8			
cone	K	1	2	3								GEOM
congruence									8			GEOM
congruent			2	3	4	5		7	8			GEOM
constant							6	7	8	A1		
constant rate of change								7	8			
consumer			2									
converse of the Pythagorean theorem									8			
conversion					4							
coordinate plane						5	6		8			
correlation coefficient									8	A1		
correlation strength									8	A1		
corresponding side length/angle								7	8			
cost			2	3	4							

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
counting backward	K	1										
counting forward	K	1										
counting words	K											
count on		1										
coupon								7				
credit				3								
credit card						5	6					
credit limit							6					
credit report							6					
cube	K	1	2	3							A2	
cubic unit						5	6					
curved/straight	K											
curved surface	K	1	2									
customary (capacity)				3	4	5	6	7				
customary (length)					4	5	6	7				
customary (weight)				3	4	5	6	7				
customary capacity				3	4	5	6	7				
customary length					4	5	6	7				
customary weight				3	4	5	6	7				
cylinder	K	1	2	3								GEOM
data	K	1	2		4	5	6					
data/information	K	1	2	3	4	5	6					
data point	K	1	2		4	5	6					
debit card						5	6					
debt							6					
decimal					4							
decompose	K	1										
deduction						5						
degree (angle)					4		6					GEOM
degree (polynomial)										A1	A2	
denominator				3	4	5	6	7			A2	

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
dependent event								7				GEOM
dependent quantity							6	7				
deposit			2		4		6	7				
diameter								7	8			GEOM
difference	K	1	2	3	4	5	6	7			A2	
digit		1										
dilation/dilated									8			
dime	K	1	2	3								
dimensions				3	4	5	6					GEOM
direct variation									8	A1		
discount								7				
distance		1	2	3								GEOM
distributive property							6			A1		
dividend				3	4	5	6	7		A1		
divisible				3		5						
division				3			6	7				
divisor				3	4	5	6	7		A1		
dollar ($)			2	3								
domain										A1	A2	
dot plot				3	4	5	6	7				
doubles		1										
edge	K	1	2	3								
edge/side length						5						
eighths			2	3								
electronic payment						5						
employer/employee						5						
equal groups			2	3								
equally likely								7				
equal parts/equal shares		1	2	3	4	5						
equal to (=)	K	1	2	3	4	5	6		8			
equation	K	1	2				6	7	8	A1	A2	

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
equation/number sentence	K	1	2				6	7	8	A1	A2	
equilateral triangle						5						
equivalent					4		6			A1		
equivalent expression						5	6					
equivalent fraction				3	4	5						
estimate				3	4	5						
even			2	3								
expanded form		1	2	3								
expanded notation				3	4	5						
expense					4	5		7				
experimental data								7				
experimental probability								7				GEOM
exponent/power							6			A1	A2	
exponential decay										A1		
exponential function										A1	A2	
exponential growth										A1		
expression							6				A2	
exterior angle									8			GEOM
face	K	1	2	3								
fact family		1	2	3								
factor				3	4	5	6	7		A1	A2	
factor pairs						5						
fee							6					
financial asset								7				
financial records						5						
fives		1										
fixed expense					4			7				
flat surface	K	1										
fourths			2	3								
fourths/quarters		1										
fraction			2									

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
fractional parts			2	3								
frequency table			2	3	4	5						
function									8	A1	A2	
function notation										A1		
gift	K											
given/earned	K											
goods		1										
grant							6					
graph title	K	1	2	3								
greater than (>)	K	1	2	3	4	5	6	7	8	A1		
greater than/more than	K	1	2	3	4	5	6	7	8	A1		
greater than or equal to (>=)							6	7	8	A1		
greatest common factor										A1		
greatest to least		1	2	3	4	5	6		8			
gross income						5						
half past												
halfway				3								
halves												
height						5	6	7	8			GEOM
height of prism/pyramid								7				
hexagon		1	2	3								
hierarchy of quadrilaterals						5						
histogram							6					
horizontal										A1		
horizontal shift										A1		
horizontal stretch/compression										A1	A2	
hour		1	2	3								
human capital				3								
hundred millions place					4	5						
hundreds place		1	2	3	4	5						
hundred thousands place				3								

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
hundredths place					4	5						
hypotenuse									8			GEOM
identity property					4		6					
improper fraction					4	5	6	7				
income	K			3		5	6	7				
income tax						5		7				
independent event								7				GEOM
independent quantity							6	7				
inequality						5	6	7	8	A1	A2	
inner scale					4							
input-output table				3	4	5						
input/output table				3	4	5						
integer							6	7	8			
interest				3	4		6	7				
interior angle							6		8			GEOM
interquartile range (IQR)							6	7				
intersecting lines					4				8			
inverse property							6					
irrational number									8			
isosceles triangle						5						GEOM
job	K											
joining	K	1	2	3	4							
label	K	1	2	3								
labor				3								
lateral surface area								7	8			GEOM
layers						5						
least/most					4	5						
least to greatest		1	2	3	4	5	6		8			
leg									8			
legend (key)			2	3								
lender							6					

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
lending			2		4		6					
length	K	1	2	3	4	5	6		8			GEOM
less likely								7				
less than (<)	K	1	2	3	4	5	6	7	8	A1		
less than/fewer than	K	1	2	3	4	5	6	7	8	A1		
less than or equal to (<=)							6	7	8	A1		
liability								7				
like terms										A1		
linear equation										A1	A2	GEOM
linear function/relationship									8	A1		
linear inequality										A1	A2	
line graph						5	6					
line of symmetry					4	5				A1	A2	GEOM
line segment					4							GEOM
little more/little less	K	1	2	3	4	5						
loan								7	8			
loan/lending			2		4		6					
longer than/shorter than												
make 10		1										
mass					4							
maximum										A1	A2	
maximum/at most							6	7	8			
mean							6	7				
mean absolute deviation									8			
measures of center							6	7				
measures of spread							6	7				
measuring tape			2									
median							6	7				GEOM
meter stick			2									
metric (capacity)				3	4	5	6	7				
metric (length)					4	5	6	7				

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
metric (weight)				3	4	5	6	7				
metric capacity				3	4	5	6	7				
metric length					4	5	6	7				
metric weight				3	4	5	6	7				
midpoint									8			GEOM
millions					4	5						
minimum										A1	A2	
minimum/at least							6	7	8			
minute		1	2	3								
mixed number					4	5	6	7				
mode							6	7				
money	K											
money market fund					4							
monomial										A1		
more likely								7				
more than/fewer than	K											
more than/less than				3	4	5						
multiplication				3								
multiplicative pattern				3								
multiplicative pattern/relationship						5	6					
nearest 1,000					4							
nearest 10				3	4							
nearest 100				3	4							
needs												
negative linear association									8			
net								7				
net income						5						
net worth								7				
net worth statement								7				
nickel	K	1	2	3								
no association									8			

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
non-linear function/relationship									8			
non-proportional								7				GEOM
non-proportional situation/relationship									8			
no real solution										A1		
numbers	K											
numerator				3	4	5	6	7			A2	
numerical pattern					4	5						
obtuse angle					4	5	6					
occupation							6					
octagon			2	3								
odd			2	3								
ones	K	1	2	3	4	5						
ones place		1	2									
one tenth					4							
open number line		1										
opposite angle							6					GEOM
opposite number							6					
opposite reciprocal										A1		
ordered pair/coordinate				3		5	6				A2	
ordered pair/coordinate/number pair				3		5	6				A2	
order of operations						5	6					
orientation									8			
origin									8			
origin (0, 0)						5	6					
outcome								7				
outer scale					4							
outlier							6	7				
p.m.			2									
parabola										A1	A2	
parallel					4	5			8	A1		GEOM
parallel lines					4	5			8	A1		GEOM

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
parallelogram			2	3		5	6					GEOM
parent function										A1		
parentheses						5						
part	K	1										
part-to-part comparison							6	7				
part-to-whole comparison							6	7				
partial product				3								
partial products				3								
partial quotient					4							
part of a whole				3								
payroll tax						5						
penny	K	1	2	3								
pentagon			2	3		5						
per								7				
percent (%)								7				
percent/percentage							6					
percent bar graph							6					
percent decrease								7				
percent increase								7				
percent of values							6					
perfect square					4					A1		
perfect square trinomial										A1	A2	
perimeter				3	4	5	6	7				GEOM
perimeter of the Base									8			
perpendicular					4	5				A1		GEOM
perpendicular lines					4	5				A1		GEOM
per unit rate								7				
pi (?)								7	8			GEOM
pictograph			2	3								
picture graph	K	1										
place value		1	2	3	4	5						

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
planned spending				3								
point					4	5				A1		GEOM
point-slope form										A1		GEOM
point of intersection									8			
polygon			2	3		5						GEOM
polynomial										A1	A2	
position					4							
positive linear association									8			
prime factorization							6					
prime notation									8			
prime number						5						
principal								7	8			
prism				3								GEOM
probability								7				GEOM
probability experiment								7				
producer			2									
product			2	3	4	5	6	7			A2	
profit					4							
property tax						5						
proportion							6	7	8			
proportional								7				GEOM
proportional situation												
proportional situation/relationship									8			
protractor					4							
quadrant						5	6					
quadratic equation										A1		
quadratic formula										A1	A2	
quadratic function										A1		
quadrilateral				3		5						GEOM
quarter	K	1	2	3								
quarter "˜til			2	3								

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
quarter after/past			2	3								
quarter circle								7				
quarter to/'til			2	3								
quartile							6	7				
quotient				3	4	5	6	7		A1	A2	
radical										A1	A2	
radius								7	8			GEOM
random/randomly								7				
random sampling								7	8			
range							6	7		A1	A2	
rate							6	7				
rate of change								7	8	A1		
ratio							6	7	8			GEOM
rational number							6	7	8			
ray					4							
real number									8			
real object graph	K											
rebate								7				
reciprocal							6	7				
rectangle	K	1	2	3		5	6	7				GEOM
rectangular prism		1	2	3		5	6	7				
rectangular pyramid								7				
reflection									8	A1	A2	GEOM
relative frequency table							6					
remainder					4							
repeated addition			2									
repeated subtraction			2									
retail price						5						
retirement								7				
rhombus		1	2	3		5						GEOM
right angle					4	5	6					

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
right triangle									8			GEOM
rotation									8			GEOM
round/rounding				3	4	5						
row				3								
rule				3	4	5						
ruler			2									
sales tax						5		7				
sample space								7				GEOM
saving		1	2	3	4		6	7				
savings bond					4							
scaled interval					4	5						
scale factor							6	7	8			GEOM
scalene triangle						5						
scarcity of resources				3								
scatterplot						5			8	A1	A2	
scatter plot						5			8	A1	A2	
scholarship							6					
scientific notation									8			
selling price					4							
semicircle								7				
separating	K	1	2	3	4							
services		1										
shape/figure	K	1	2									
shape of data distribution							6	7				
side	K	1	2	3			6					
similar figures/shapes								7	8			GEOM
similar right triangle									8			
similar shape								7	8			GEOM
simple event								7				
simple interest								7	8			
simplified form					4	5	6	7				

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
sixths				3								
size of the whole				3								
skew							6	7				
skill	K											
slope									8	A1	A2	GEOM
slope-intercept form										A1		GEOM
solid	K	1	2	3								
solution										A1	A2	
solution set							6	7		A1	A2	
spend/spending		1	2	3	4							
spending		1	2	3	4							
sphere	K	1	2	3								GEOM
spread							6	7				
square	K	1	2	3		5		7				GEOM
square centimeter				3								
square feet				3								
square inch					4							
square millimeter					4							
square pyramid								7	8			GEOM
square root									8	A1	A2	
square root (?)									8	A1	A2	
square unit			2	3	4	5	6					GEOM
square yard				3								
standard form		1	2	3								GEOM
standard form (linear)										A1		
standard form (quadratic)										A1	A2	
standard unit of length			2									
steep										A1		
stem-and-leaf plot				3	4	5	6					
straight angle								7				
strength of correlation										A1		

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
student loan							6					
subtraction	K	1	2									
sum	K	1	2	3	4	5	6	7				
supplementary angle								7	8			
supplementary angles								7	8			
symmetrical							6	7				
symmetry/symmetrical							6	7				
system of equations										A1		
t-chart	K	1										
table						5						
tally mark	K	1										
tax								7				
ten millions place					4	5						
tens	K	1										
tens place	K	1	2	3	4	5						
ten thousands place				3								
tenths place					4	5						
ten times					4							
term										A1		
theoretical probability								7				GEOM
thirds				3								
thousands			2		4							
thousandths place					4	5						
three-dimensional	K	1	2	3								
time		1							8			
total surface area								7	8			GEOM
to the right						5						
transfer							6					
transformation									8	A1	A2	GEOM
translation									8	A1	A2	GEOM
transversal									8			GEOM

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
trapezoid			2	3		5	6	7				GEOM
tree diagram								7				
trend line									8			
triangle	K	1	2	3			6	7				GEOM
triangular prism		1	2	3				7				
triangular pyramid								7				
trinomial										A1		
two-dimensional	K	1	2	3								
twos		1										
undefined										A1		
unit fraction				3	4	5						
unit of measure		1										GEOM
unit rate							6	7	8			
unknown quantity/variable		1	2	3	4	5						
unplanned spending				3								
up from						5						
value					4							
variability							6					
variable					4		6	7	8		A2	
variable expense					4			7				
vertex	K	1	2	3	4	5	6			A1	A2	GEOM
vertex/vertices	K	1	2	3	4	5	6			A1	A2	GEOM
vertex form (of a quadratic function)										A1	A2	
vertical										A1		
vertical angle								7	8			GEOM
vertical shift										A1		
vertical stretch/compression										A1	A2	
volume	K			3		5	6	7	8			
volume/capacity	K			3		5	6	7	8			
wages						5						
wants	K	1		3								

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Math Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	A1	A2	GEOM
weight	K			3								
whole		1	2	3	4							
whole number							6	7	8			
width				3	4	5	6			A1		
withdrawal			2		4		6	7				
word form		1	2									
work-study							6					
x-axis						5	6		8	A1		
x-coordinate						5						
x-intercept									8	A1		
x-values						5						
y-axis						5	6		8	A1		
y-coordinate						5						
y-intercept									8	A1	A2	GEOM
y-values						5						
yardstick			2									
zero edge					4							
zeros										A1		

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
19th Amendment											USH
442nd Regimental Combat Team						5					
1861 Secession Convention								7			
abolish/abolition/abolitionist					4	5			8		
abolition					4	5			8		
abolition/abolitionist					4	5			8		
Aboriginals							6				
absolute distance											
absolute location											
activities	K	1									
adaptation				3	4	5					
adobe					4			7			
Africa			2								
African Great Lakes										WG	
Afrikaans										WG	
agriculture			2		4	5	6	7	8	WG	
agriculture/agricultural			2		4	5	6	7	8	WG	
Alien and Sedition Acts									8		
ally/alliance											USH
Alps										WG	
amendment					4	5			8		
American Anti-Slavery Society									8		
American Expeditionary Forces											USH
American Revolution						5					
Andes Mountains										WG	
annex/annexation									8		USH
annexation					4			7			
Antarctica			2								
Apache					4						
apartheid							6			WG	
Appalachian Mountains						5				WG	

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
appoint/appointment						5		7	8		
Appomattox Court House Surrender									8		
aquifer					4			7			
archipelago							6			WG	
Arctic Ocean			2								
Articles of Confederation									8		
artist				3							
Asia			2								
assassination of Franz Ferdinand											USH
assassination of Martin Luther King, Jr.											USH
assimilation								7			USH
Atlantic Ocean			2								
Atlantic slave trade							6				
atmosphere										WG	
atoll										WG	
attack on Pearl Harbor											USH
Austin, Texas			2								
Australia			2							WG	
Australian Outback							6				
authoritarian							6			WG	
authority figures	K										
autocracy										WG	
Baltic States										WG	
Bank of the United States									8		
basic need			2								
basin					4		6	7			
Battle of Antietam									8		
Battle of Fort Sumter									8		
Battle of Gettysburg									8		
Battle of Goliad								7			
Battle of Gonzales								7			

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Battle of Little Bighorn											USH
Battle of Medina								7			
Battle of Midway											USH
Battle of San Jacinto					4			7			
Battle of Saratoga									8		
Battle of the Alamo					4			7			
Battle of Vicksburg									8		
Battle of Yorktown									8		
Battles of Lexington and Concord									8		
before/after	K										
Berlin Conference										WG	
bicameral									8		
Bill of Rights				3	4	5			8		
biodiversity							6				
black codes								7	8		
Black Panther Party											USH
body of water		1	2								
Boston Tea Party						5			8		
boycott						5			8		USH
British Commonwealth										WG	
Brown v. Board of Education											USH
Buddhism							6			WG	
budget				3							
Buffalo Soldiers					4			7			
buying		1									
Caddo					4			7			
California Gold Rush									8		
Camp David Accords											USH
Canada			2								
canal							6			WG	
capitalism/free market/free enterprise							6				

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
cardinal directions		1	2	3							
cartogram											
cash crop					4	5	6		8	WG	
caste system							6			WG	
Catholic/Catholicism							6				
Catholic missions								7			
cattle industry					4						
cattle trails					4			7			
Caucasus Mountains										WG	
censorship							6				
census											
central/federal/national government									8		
Centralists								7			
chart				3							
checks and balances					4	5	6	7	8		
Cherokee War								7			
Chinese Exclusion Act											USH
choropleth map											
Christianity							6			WG	
Christmas							6				
Christopher Columbus	K										
Cinco de Mayo					4						
citizen		1	2								
citizenship		1	2	3							
city-state										WG	
civic responsibility				3							
Civilian Conservation Corps											USH
civilization							6				
civil liberties									8		
civil rights						5					
Civil Rights Act of 1957											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Civil Rights Act of 1964								7			USH
Civil Rights Movement						5					
civil war					4	5	6				
Clean Air Act											USH
climate				3	4	5	6			WG	
clothing	K	1									
cloudy	K										
coastal plains					4						
coast of Texas			2								
Cold War							6				USH
collective farms							6				
colonialism/colony							6			WG	
colonize/colonization					4	5	6		8		
colony/colonist						5			8		
Columbian Exchange							6			WG	
Comanche					4						
commercial agriculture										WG	
commodity chain											
Common Sense									8		
communication		1	2	3						WG	
communism							6			WG	USH
community	K	1	2	3							
community service			2								
compass rose				3	4						
Compromise of 1850								7	8		
concentration camps											USH
conflict		1	2			5	6				
Congo River							6			WG	
Congress of Racial Equality (CORE)											USH
conquistador					4			7			
conserve			2								

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Constitution						5	6	7	8		
constitutional/unconstitutional									8		
Constitutional Convention									8		
Constitutional Convention of 1836								7			
constitutional monarchy							6			WG	
Constitution Day	K	1									
Constitution of 1824					4			7			
constrictive population pyramid											
containment											USH
continent			2							WG	
Continental Congress									8		
continental drift										WG	
Conventions of 1832 and 1833								7			
coral reef							6			WG	
Cornucopian theory											
corrupt bargain									8		
cotton gin									8		
cotton industry					4						
Cuban missile crisis											USH
cultural diffusion							6				
culture	K						6			WG	
culture traits							6				
cycle of poverty							6				
Daughters of Liberty						5			8		
Dawes Act									8		USH
Declaration of Independence				3		5			8		
deforestation							6				
Delgado v. Bastrop ISD											USH
delta										WG	
demand				3	4	5					
democracy					4	5	6			WG	

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
democracy/democratic					4	5	6			WG	
Democratic-Republicans									8		
democratic republic							6				
demographic indicators										WG	
demographic transition model											
dense population					4						
dependency ratio											
desert							6			WG	
desertification							6			WG	
developed economy							6				
developing economy							6				
dictator/dictatorship							6				
diffusion										WG	
direct election											USH
distance decay/friction of distance											
diverse/diversity							6			WG	
Domino Theory							6				USH
donating				3							
dot distribution map											
Dred Scott v. Sandford									8		
drilling			2								
drought							6				
due process						5			8		
Dust Bowl					4			7			USH
dynasties							6				
dynasty										WG	
Earth's resources	K		2								
Earth's resources		1									
economic activities					4					WG	
economic development					4					WG	
Edgewood ISD v. Kirby											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
election			2		4	5					
election of 1824									8		
election of 2008						5					
Electoral College									8		
elevation										WG	
El Niño										WG	
Emancipation Proclamation									8		
Embargo of 1807									8		
empresario					4			7			
Endangered Species Act											USH
enslaved people					4		6		8		
entrepreneur				3		5	6				USH
environment						5			8		
environmental determinism											
environmentalism							6				
environmental possibilism											
epidemic diseases							6				
E Pluribus Unum											USH
Equal Rights Amendment (ERA)											USH
Erie Canal									8		
erosion										WG	
escarpment					4			7			
Espionage and Sedition Acts											USH
ethnic/cultural celebration				3							
Eurasian Steppes										WG	
Europe			2								
European exploration									8		
European Union							6			WG	
European Union (EU)							6			WG	
executive branch					4	5	6		8		
Executive Order 9066											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
expansionism											USH
expansive population pyramid											
extermination camps											USH
factors of climate							6			WG	
factors of production							6	7			
Fair Housing Act											USH
federalism								7	8		
Federalist Papers									8		
Federalists								7			
Federalists/Anti-Federalists									8		
Fifteenth (15th) Amendment					4	5		7	8		
Fifteenth Amendment					4	5		7	8		
filibuster								7			
fire protection			2								
first/next/last	K										
First 1stAmendment											USH
First Great Migration											USH
first responders				3							
five oceans											
flood							6				
formal region										WG	
Fourteenth (14th) Amendment					4	5		7	8		USH
Fredonian Rebellion								7			
Freedmen's Bureau									8		
freedom of speech							6	7			
free enterprise system				3	4	5		7	8		
free market capitalism										WG	
French and Indian War						5			8		
French exploration					4			7			
Fugitive Slave Act									8		
functional region										WG	

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
functions of government			2	3							
Fundamental Orders of Connecticut									8		
Gadsden Purchase									8		
Ganges River										WG	
GDP per capita							6				
General Agreement on Tariffs and Trade (GATT)											USH
genocide							6				USH
geographic data					4						
geographic factors					4						
geographic scale											
George Washington	K	1				5					
gerrymandering											USH
Gettysburg Address									8		
GI Bill (Servicemen's Readjustment Act of 1944)											USH
Gilded Age											
glacier										WG	
globalization							6			WG	
Global War on Terrorism											USH
globe	K	1	2								
goods		1	2	3							
governmental services			2								
governor			2		4						
GPS										WG	
gravity model											
Great Compromise									8		
Great Depression					4	5		7			USH
Great Irish Famine									8		
Great Lakes						5				WG	
Great Plains						5				WG	
Great Rift Valley							6			WG	

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Great Society											USH
Great Wall of China							6			WG	
gross domestic product (GDP)							6			WG	
Gulf of Tonkin Resolution											USH
Gulf peoples					4			7			
Hadrian's Wall										WG	
Harlem Renaissance											USH
heat map											
Hernandez v. Texas											USH
Himalaya Mountains							6			WG	
Hinduism							6			WG	
holiday	K	1									
Holocaust							6				USH
Homestead Act									8		USH
homesteader											USH
Hooverville											USH
House of Burgesses						5			8		
House Un-American Activities Committee (HUAC)											USH
human development index										WG	
human modification			2			5					
hydrosphere										WG	
immigration								7		WG	
immigration/immigrant					4	5	6		8		USH
immigration/immigrants					4	5	6		8		USH
impressment						5					
independence						5	6		8		
Independence Day	K	1	2								
Indian Ocean			2								
Indian Removal Act									8		
individualism/self-reliance									8		USH
industrialists											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
industrialization					4	5	6		8		
Industrial Revolution						5			8	WG	
infant mortality rate										WG	
infrastructure										WG	
interchangeable parts									8		
internment camps											USH
Interstate Commerce Act											USH
intervention									8		USH
Intolerable Acts									8		
invasion of Normandy											USH
Iran Contra affair											USH
Iran Hostage Crisis											USH
irrigation			2								
Islam							6			WG	
island										WG	
isoline map											
isthmus							6			WG	
Jamestown									8		
Jim Crow laws								7			USH
job	K	1									
jobs	K	1									
José Antonio Navarro	K										
Judaism							6			WG	
judicial branch					4	5	6		8		
Jumano					4						
Juneteenth					4			7			
junta							6				
K-Pop							6				
Kansas-Nebraska Act									8		
Karankawa					4						
Khmer Rouge							6			WG	

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Korean War										WG	USH
labor unions								7			USH
laissez-faire											USH
lake	K										
Lake Baikal										WG	
lake effect										WG	
landform	K	1	2	3		5					
landmark			2		4	5					
latitude							6			WG	
Law of April 6, 1830								7			
League of Nations											USH
legend			2	3	4						
legislative branch					4	5	6		8		
legislative branch/Congress					4	5	6		8		
less developed country (LDC)										WG	
Liberty Bell		1									
library			2								
life expectancy							6			WG	
limited government							6	7	8		
Lincoln's first inaugural address									8		
literate/literacy							6				
lithosphere										WG	
Little Rock Crisis											USH
locator map											
Long Expedition								7			
longitude										WG	
Louisiana Purchase						5			8		
machine politics											USH
Malthusian theory											
Manhattan Project											USH
Manifest Destiny					4	5		7	8		

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
map	K	1	2			5					
map elements			2								
mapping elements				3	4						
Marbury v. Madison									8		
March on Washington											USH
Marshall Plan											USH
mass production					4	5					
Mayflower Compact						5			8		
mayor			2		4						
McCarthyism											USH
McCulloch v Maryland									8		
Mediterranean Sea										WG	
mercantilism/mercantilist									8		
Mexican independence					4			7			
Mexico			2								
Mier Expedition								7			
Mier y Terán report								7			
migration					4		6			WG	
missions					4						
Mission San Juan Bautista								7			
Missouri Compromise									8		
mixed economy										WG	
monarchy					4	5				WG	
money	K										
monopoly/trust											USH
monotheism/monotheistic							6				
Monroe Doctrine									8		
monument			2								
more developed country (MDC)										WG	
Morrill Act									8		
mountains				3	4						

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
muckrakers											USH
multicultural							6			WG	
multicultural/multiculturalism							6			WG	
Nacogdoches								7			
nation		1		3						WG	
nation-state										WG	
National Association for the Advancement of Colored People (NAACP)								7			USH
National Parks Service											USH
Nation of Islam											USH
nativist/nativism									8		USH
natural disaster/hazard				3							
natural increase rate											
natural resources			2		4					WG	
needs	K	1		3	4						
Neolithic revolution											
neutrality											USH
New Deal								7			USH
New Jersey Plan									8		
newly industrialized countries										WG	
Niagara Movement											USH
Nile River										WG	
nomad/nomadic					4		6	7			
North America			2								
North American Free Trade Agreement (NAFTA)											USH
Northwest Ordinance									8		
Nullification Crisis									8		
ocean	K										
ocean currents										WG	
oil			2								
oil and gas industry					4						

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Old Three Hundred								7			
OPEC										WG	
Open Door policy											USH
order	K	1	2								
Oregon Trail									8		
Outback										WG	
Pacific Ocean			2								
Palmer Raids											USH
Panama Canal										WG	USH
pandemic diseases							6			WG	
Panic of 1837									8		
park			2								
Parliament							6		8		
parliamentary democracy										WG	
parliamentary government							6				
peninsula							6			WG	
Persian Gulf War										WG	USH
physical characteristics of place	K	1									
physical environment			2	3						WG	
physical geography							6			WG	
physical map						5					
physical map						5					
physical regions					4						
Plains peoples					4			7			
plantation						5			8		
Plessy v. Ferguson											USH
Plymouth									8		
police protection			2								
political geography							6			WG	
political map											
political parties						5		7	8		

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
popular sovereignty								7	8		
population					4					WG	
population density							6	7		WG	
population distribution					4	5				WG	
population pyramid										WG	
Populist/People's Party											USH
precipitation										WG	
president			2								
president/vice president					4	5			8		
Presidents' Day	K										
presidio					4			7			
private property											USH
Proclamation of 1763						5			8		
profit/profitability				3					8		
Progressives											USH
Prohibition											USH
proportional symbol map											
prosperity								7			USH
public debt								7			
Puebloan peoples					4			7			
Pure Food and Drug Act											USH
push/pull factor							6	7	8		
railroad industry					4						
rainforest							6				
rainy	K										
ratify/ratification						5			8		USH
Reaganomics											USH
Red River War					4						
Red Scare											USH
reference map											
reform									8		USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
refugee							6				
relative distance											
relative location	K	1	2								
relative location	K	1	2								
religious freedom						5			8		
religious freedom/tolerance						5			8		
religious groups						5					
religious minorities										WG	
religious persecution									8		
remote sensing											
renewable resources										WG	
replenish			2								
representation									8		
representative government						5			8		
republic					4		6	7	8	WG	
Republican Army of the North								7			
resettlement/relocation									8		
Ring of Fire										WG	
river	K										
road map											
robber barons											USH
Rocky Mountains						5				WG	
Roosevelt Corollary											USH
rules	K										
Runaway Scrape					4						
rural			2		4	5	6	7		WG	
safety	K										
Sahara Desert							6			WG	
Sahel										WG	
San Antonio settlement					4			7			
San Francisco de los Tejas								7			

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
saving		1	2	3							
scale					4						
Scandinavia										WG	
school		1	2								
seasons	K										
secede/secession					4	5		7	8		
Second Agricultural Revolution											
Second Great Awakening									8		
sectionalism						5		7	8		
security	K	1	2	3							
segregation/integration								7			USH
Selective Service Act											USH
Seneca Falls Convention									8		
services		1		3			6				
settlement					4	5					
settlement houses											USH
settlement pattern			2							WG	
seven continents											
sharecropping					4				8		
shelter	K	1									
Sherman Antitrust Act											USH
Shinto										WG	
Siberia										WG	
siege of San Antonio de Béxar								7			
sinking of the Lusitania											USH
six flags of Texas					4						
slash-and-burn							6			WG	
slavery					4	5	6	7	8		
Smoot-Hawley tariff											USH
Social Darwinism											USH
Social Security Act of 1935											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Sons of Liberty						5			8		
South America			2								
Southeastern/Caddo peoples					4			7			
Southern Ocean			2								
sovereignty										WG	
space program						5					
Spanish-American War											USH
Spanish exploration					4			7			
sparse population					4						
speculation											USH
spending		1	2	3							
Spindletop					4			7			
Stamp Act									8		
state		1		3		5				WG	
State Colonization Law of 1825								7			
stateless nation										WG	
states' rights						5		7	8		
states’ rights						5		7	8		
stationary population pyramid											
statue			2	3							
Statue of Liberty		1				5					
Stephen F. Austin	K										
subsistence agriculture										WG	
suburban			2			5					
Suez Canal										WG	
Sugar Act									8		
sunny	K										
supply				3	4	5					
sustainability											
symbol	K		2		4	5					
symbols	K		2		4	5					

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Taj Mahal										WG	
tariff						5			8		
tax			2								
taxation						5					
Tea Act									8		
Teapot Dome scandal											USH
technology	K			3		5				WG	
tectonic forces										WG	
Tejano					4			7			
telegraph									8		
temperance movement									8		
temperature	K									WG	
term									8		
territory									8	WG	
Tet offensive											USH
Texas		1	2							WG	
Texas Constitution					4						
Texas Declaration of Independence					4						
Texas executive branch					4	5	6		8		
Texas flag	K	1									
Texas judicial branch					4	5	6		8		
Texas legislative branch					4	5	6		8		
Texas Revolution					4			7	8		
textile									8		
The Alamo		1									
thematic map											
theocracy							6			WG	
The Space Race											USH
Thirteen (13) British Colonies						5			8		
Thirteenth (13th) Amendment					4	5		7	8		
Thirteenth Amendment						5		7	8		

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
Three-Fifths Compromise									8		
time-space compression											
Tinker v. Des Moines											USH
trade/trading									8		
traditions	K										
Trail of Tears									8		
transatlantic slave trade									8		
transcendentalism									8		
transcontinental railroad						5			8		USH
Treaties of Velasco					4			7			
treaty					4						
Treaty of Ghent									8		
Treaty of Guadalupe Hidalgo					4			7	8		
Treaty of Paris of 1783									8		
Treaty of Versailles											USH
trenches/trench warfare											USH
tropical cyclone										WG	
tropical rainforest										WG	
Truman Doctrine											USH
tsunami										WG	
Turtle Bayou Resolutions								7			
U.S.-Mexican War					4			7	8		
U.S. Constitution				3							
Uncle Tom's Cabin									8		
Underground Railroad									8		
United Nations											USH
United States		1	2			5				WG	
United States flag	K	1									
unlimited government							6				
Ural Mountains										WG	
urban			2		4	5	6	7		WG	USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
urbanization					4	5	6	7	8	WG	USH
urban sprawl											
USMCA										WG	
USSR							6				
Valley Forge									8		
vernacular region										WG	
Veterans Day	K	1	2								
veto									8		
Virginia House of Burgesses						5			8		
Virginia Plan									8		
voting	K	1	2	3							
voting rights/suffrage									8		
Voting Rights Act of 1965								7			USH
wants	K	1			4						
War of 1812						5			8		
War Powers Act											USH
Washington's Farewell Address									8		
Washington, D.C.			2								
Watergate Scandal											USH
weather	K	1								WG	
Whiskey Rebellion									8		
White v. Regester											USH
Wilson's Fourteen Points											USH
wind	K										
Wisconsin v. Yoder											USH
women's rights movement						5		7	8		
women’s rights						5		7	8		
Worcester v. Georgia									8		
World War I						5	6	7			USH
World War II					4	5	6				USH
Wounded Knee Massacre											USH

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Social Studies Vocabulary Words

Click on a word to see which TEKS standard(s) it vertically aligns to

Word	K	1	2	3	4	5	6	7	8	WG	USH
yesterday/today/tomorrow	K										
Zimmermann telegram											USH
[GIS]										WG	

Science | 911 visuals

(dynamic) equilibrium

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

Bio

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

0th law of thermodynamics

Chem

C.13(A)
explain everyday examples that illustrate the four laws of thermodynamics

2nd law of thermodynamics

Chem

C.13(A)
explain everyday examples that illustrate the four laws of thermodynamics

3rd law of thermodynamics

Chem

C.13(A)
explain everyday examples that illustrate the four laws of thermodynamics

10% Energy Rule

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

abiotic

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

absolute magnitude

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

absorb/absorption

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

absorption spectrum

Phys

P.9(A)
describe the photoelectric effect and emission spectra produced by various atoms and how both are explained by the photon model for light

P.8(F)
investigate the emission spectra produced by various atoms and explain the relationship to the electromagnetic spectrum.

acceleration

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

acceleration-time graph

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

acceleration due to gravity

6th

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

acid

8th

8.6(D)
compare and contrast the properties of acids and bases, including pH relative to water.

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.12(A)
name and write the chemical formulas for acids and bases using IUPAC nomenclature rules

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

acid-base reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

activation energy

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

active transport

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

activity

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

adapt/adaptation

5th

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

adhesion

8th

8.6(C)
describe the properties of cohesion, adhesion, and surface tension in water and relate to observable phenomena such as the formation of droplets, transport in plants, and insects walking on water

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

adult

1st

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

agitation

7th

7.6(E)
investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.

Chem

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

air

K

K.10(C)
identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

air mass

8th

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

alkali earth metal

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

alkali metal

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

alkaline

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

allele

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

alpha particle

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

amino acid

Bio

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

ammeter

Phys

P.6D)
Description unavailable right now.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

amplitude

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

anaerobic cellular respiration

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

anatomical homology

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

ancestor

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

angular velocity

Phys

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

animal

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

1.13(C)
compare ways that young animals resemble their parents.

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

animal cell

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

Animalia

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

antibiotic

Bio

B.5(D)

compare the structures of viruses to cells and explain how viruses spread and cause disease.

anticodon

Bio

B.7(C)

identify and illustrate changes in DNA and evaluate the significance of these changes.

antinode

Phys

P.8(A)

examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)

investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

apparent magnitude

8th

8.9(A)

describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)

categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)

explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

appearance

K

K.8(A)

communicate the idea that objects can only be seen when a light source is present and compare the effects of different amounts of light on the appearance of objects.

2nd

2.9(B)

observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.

4th

4.9(B)

collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

appendage

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

applied force

6th

6.7(A)
identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

aquarium

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

aqueous

No TEKS assignments found for this visual.

aqueous (aq)

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

aquifer

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

Archaea/archaebacteria

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Arrhenius acid/base

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

artificial reef

7th

7.11(B)
describe human dependence and influence on ocean systems and explain how human activities impact these systems.

artificial selection/selective breeding

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

asexual reproduction

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

asteroid

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

asthenosphere

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

atmosphere

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

4th

4.10(C)
differentiate between weather and climate.

6th

6.10(A)
differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system

7th

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

atmospheric nitrogen

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

atom

6th

6.6(A)
compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

atomic mass

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

atomic number

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

atomic radius

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

ATP

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

attract/attraction

K

K.7(A)
Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

Aufbau principle

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

autotroph

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

average

4th

4.10(C)
differentiate between weather and climate.

average atomic mass (amu)

Chem

C.6(D)
calculate average atomic mass of an element using isotopic composition.

average speed

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

average velocity

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

Avogadro’s law

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

Avogadro’s number

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

axis

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

back and forth

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

bacteria

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Bacteria (kingdom)

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

bacteriophage

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

balanced chemical equation

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

balanced force

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(D)
analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

base

8th

8.6(D)
compare and contrast the properties of acids and bases, including pH relative to water.

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.12(A)
name and write the chemical formulas for acids and bases using IUPAC nomenclature rules

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

basic need

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

7th

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

battery

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

behavior

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(C)
record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

4th

4.13(B)
differentiate between inherited and acquired physical traits of organisms.

5th

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

behavioral adaptation

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

benefit/beneficial

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

benign

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

beta particle

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

Big Bang theory

8th

8.9(C)
research and analyze scientific data used as evidence to develop scientific theories that describe the origin of the universe.

bigger/larger

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

biodiversity

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

biofuels

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

biogeography

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

biomass

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

biomolecule/macromolecule

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

biosphere

6th

6.10(A)
differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system

7th

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

biotic

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

body covering

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

Bohr model

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

Boyle's Law

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

brightness/luminosity

K

K.8(A)
communicate the idea that objects can only be seen when a light source is present and compare the effects of different amounts of light on the appearance of objects.

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

brittle

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

Brønsted-Lowry acid/base

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

buoyancy

No TEKS assignments found for this visual.

calm

K

K.10(C)
identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

calorimetry

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

camouflage

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

cancer/tumor

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

canyon

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

capillary action

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

capsid

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

carbohydrate

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

carbon

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

carbon cycle

8th

8.11(C)
describe the carbon cycle.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

carbon dioxide

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

7th

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

carbon fixation

8th

8.11(C)
describe the carbon cycle.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

caregiver

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

carnivore

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

catalyst

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

Chem

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

cathode ray

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

celestial body

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

cell

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.13(B)
describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

cell cycle

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

cell differentiation

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.6(B)
explain the process of cell specialization through cell differentiation, including the role of environmental factors.

cell membrane

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

cellular respiration (aerobic)

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

cell wall

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

Celsius (°C)

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

4th

4.10(C)
differentiate between weather and climate.

cementation

5th

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

centriole

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

centripetal acceleration

Phys

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

change

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

characteristic

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Charles' law

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

chemical change

6th

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

7th

7.6(C)
distinguish between physical and chemical changes in matter

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

chemical energy

5th

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

chemical formula

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.8(D)
differentiate between empirical and molecular formulas.

C.12(A)
name and write the chemical formulas for acids and bases using IUPAC nomenclature rules

chemical nomenclature

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.12(A)
name and write the chemical formulas for acids and bases using IUPAC nomenclature rules

chemical property

6th

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

chemical reaction

6th

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

chemical symbol

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

chlorophyll

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

chloroplast

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

chromatid

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

chromosomal mutation

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

chromosome

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

circuit

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

Phys

P.6(D)
analyze, design, and construct series and parallel circuits using schematics and materials such as switches, wires, resistors, lightbulbs, batteries, voltmeters, and ammeters.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

circulatory system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

cladogram

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

clarity

K

K.10(C)
identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

classify/classification

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

clay

No TEKS assignments found for this visual.

clear

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

climate

4th

4.10(C)
differentiate between weather and climate.

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

climax community

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

closed/complete circuit

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

Phys

P.6D)
Description unavailable right now.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

clothing

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

cloud coverage

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

4th

4.10(C)
differentiate between weather and climate.

cloudy

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

coal

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

codominance

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

codon

Bio

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

coefficient

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

cohesion

8th

8.6(C)
describe the properties of cohesion, adhesion, and surface tension in water and relate to observable phenomena such as the formation of droplets, transport in plants, and insects walking on water

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

cold

K

K.10(B)

observe and describe weather changes from day to day and over seasons.

1st

1.10(D)

describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)

measure, record, and graph weather information, including temperature and precipitation.

cold front

8th

8.10(C)

describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

color/coloration

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.10A
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

combine/combination

2nd

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

combustion reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

comet

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

commensalism

6th

6.12(B)
describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)
investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

community

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

compaction

5th

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

compete/competition

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

6th

6.12(B)
describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)
investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

composition

7th

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

Chem

C.6(D)
calculate average atomic mass of an element using isotopic composition.

compositional layers

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

compound

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(A)
explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

concave lens

Phys

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

concentration gradient

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

condensation

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

conduction/conduct

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

7th

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)*
Description unavailable right now.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

Phys

P.6(C)
investigate and describe conservation of charge during the processes of induction, conduction, and polarization using different materials such as electroscopes, balloons, rods, fur, silk, and Van de Graaf generators

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

conductivity

6th

6.6(C)

identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

conductor

4th

4.8(B)

identify conductors and insulators of thermal and electrical energy.

5th

5.6(A)

compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.8(B)

demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

Phys

P.6(E)

calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

conservation/conserve

2nd

2.11(B)

describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

3rd

3.11(A)

explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products

4th

4.11(A)

identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

5th

5.11(A)

Earth and space. The student understands how natural resources are important and can be managed. The student is expected to design and explain solutions such as conservation, recycling, or proper disposal to minimize environmental impact of the use of natural resources.

6th

6.11(A)

research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

6.11(B)

explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources.

constant

Phys

P.5(H)

describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

constant speed

6th

6.7(C)

identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(A)

calculate average speed using distance and time measurements from investigations

7.7(B)

distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

7.7(C)

measure, record, and interpret an object's motion using distance-time graphs.

8th

8.7(B)

investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

constant velocity

6th

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

constructive/positive interference

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

consumer

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

3rd

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

4th

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

Continental Drift theory

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

convection

7th

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)
investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

convection current

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

8.11(A)
use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate

convergent boundary

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

convex lens

Phys

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

cool/cooling

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

Coriolis effect

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

Coulomb’s constant

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

Coulomb’s law

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

covalent bond

Chem

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

crest

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

crossing over

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

crust

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

cuticle

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

cycle

K

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

1st

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

cytoplasm

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

Dalton’s law of partial pressure

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

daughter cell

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

day/night

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

day/night cycle

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

decay/decompose/decomposition

3rd

3.10(B)
investigate and explain how soils such as sand and clay are formed by weathering of rock and by decomposition of plant and animal remains.

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

decomposer

3rd

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

decomposition reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

decrease/decreasing

No TEKS assignments found for this visual.

defense/protection

3rd

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

deforestation

8th

8.11(B)
use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate.

dehydration synthesis

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

delta

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

dense/density

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

6th

6.6(D)
compare the density of substances relative to various fluids.

deoxyribose sugar

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

depend/dependent/dependence

K

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

deposition

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

descend/descendant/descent

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

destructive/negative interference

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

developmental homology

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

diffraction

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

diffusion

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

digestive system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

dihybrid cross

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

dilute/dilution

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

diploid

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

displacement

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

dissolve/dissolution

4th

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

5th

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

7th

7.6(E)
investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.

Chem

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

distance

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

divergent boundary

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

diversity/diverse

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

DNA (deoxyribonucleic acid)

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

B.6(B)
explain the process of cell specialization through cell differentiation, including the role of environmental factors.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

DNA replication

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

DNA virus

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

dominant

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

Doppler effect

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

dormancy

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

double-replacement reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

double helix

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

drought

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

ductile/ductility

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

earthquake

3rd

3.10(C)
model and describe rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.

7th

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

eat/eating

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

ecological succession

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

ecosystem

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

7th

7.11(B)
describe human dependence and influence on ocean systems and explain how human activities impact these systems.

7.12(A)

diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

egg

1st

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

elastic collision

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

electric/electrostatic force

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

P.6(C)
investigate and describe conservation of charge during the processes of induction, conduction, and polarization using different materials such as electroscopes, balloons, rods, fur, silk, and Van de Graaf generators

electrical charge

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

electrical energy

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

4.8(A)
investigate and identify the transfer of energy by objects in motion, waves in water, and sound

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

electric current

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

Phys

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

electric field

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

electricity

No TEKS assignments found for this visual.

electric motor

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

electrolyte

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

electromagnetic radiation

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.8(E)
compare the different applications of the electromagnetic spectrum, including radio telescopes, microwaves, and x-rays

electromagnetic spectrum

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.8(E)
compare the different applications of the electromagnetic spectrum, including radio telescopes, microwaves, and x-rays

electron

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

electron cloud

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

electron configuration

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

electronegativity

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

electron orbital (s,p,d,f)

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

element

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(A)
explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

elliptical orbit

7th

7.9(B)
describe how gravity governs motion within Earth's solar system.

El Niño

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

emission spectrum

Phys

P.9(A)
describe the photoelectric effect and emission spectra produced by various atoms and how both are explained by the photon model for light

P.8(F)
investigate the emission spectra produced by various atoms and explain the relationship to the electromagnetic spectrum.

empirical formula

Chem

C.8(D)
differentiate between empirical and molecular formulas.

endocrine system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

endoplasmic reticulum (ER)

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

endothermic

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

energy

3rd

3.8(A)
identify everyday examples of energy, including light, sound, thermal, and mechanical.

3.8(B)
plan and conduct investigations that demonstrate how the speed of an object is related to its mechanical energy.

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

4.8(A)
investigate and identify the transfer of energy by objects in motion, waves in water, and sound

4.8(B)
identify conductors and insulators of thermal and electrical energy.

4.8(C)
demonstrate and describe how electrical energy travels in a closed path that can produce light and thermal energy.

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Phys

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

energy conversion/transformation

5th

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

energy level

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

energy pyramid

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

enthalpy (H)

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

environment

K

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(C)
record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an

ecosystem.

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

environmental change

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

7th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

Bio

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

environmental factor

Bio

B.6(B)
explain the process of cell specialization through cell differentiation, including the role of environmental factors.

enzyme

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

enzyme inhibitor

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

equal force

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(D)
analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

equator

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

equinox

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

erosion

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

erupt/eruption

3rd

3.10(C)
model and describe rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.

eukaryote

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

evaporation

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

evolution

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

excretion

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

excretory system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

exothermic

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

external

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

extinct/extinction

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

eye

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

Fahrenheit (°F)

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

fall/autumn

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

family/group (Periodic Table)

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

fast/slow

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

fatty acid

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

fault

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

feathers

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

feature

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

feedback loop/mechanism

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

fin

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

fission

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

flexibility

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

float

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

flood

2nd

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

flow

No TEKS assignments found for this visual.

flower

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

flow of energy

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

flow of matter

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

7th

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

focal length

Phys

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

focus/focal point

Phys

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

food

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(C)
record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

food chain

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

3rd

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

food web

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

force

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(A)
explain how objects push on each other and may change shape when they touch or collide.

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(A)
identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

formula mass

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

fossil

3rd

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

4th

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

fossil fuel

5th

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

5.11(A)
Earth and space. The student understands how natural resources are important and can be managed. The student is expected to design and explain solutions such as conservation, recycling, or proper disposal to minimize environmental impact of the use of natural resources.

frame of reference

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

free-body force diagram

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

freeze/freezing

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

frequency

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

freshwater

No TEKS assignments found for this visual.

friction

4th

4.7(A)

Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(B)

design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(A)

identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

6.7(B)

calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

8th

8.7(A)

calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

Phys

P.5(F)

calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)

illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

frictionless

8th

8.7(A)

calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

Phys

P.5(F)

calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)

illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

fruit

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

function

3rd

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

5th

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

7.13(B)
describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Fungi

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

fur

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

fusion

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

galaxy

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

gamete/sex cell

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

gamma ray

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

Gay-Lussac's law

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

gene

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.6(B)
explain the process of cell specialization through cell differentiation, including the role of environmental factors.

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

gene expression

Bio

B.7(B)

describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

gene flow

Bio

B.10(A)

analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)

analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)

analyze and evaluate how natural selection may lead to speciation.

B.10(D)

analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

gene frequency

Bio

B.10(A)

analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)

analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)

analyze and evaluate how natural selection may lead to speciation.

B.10(D)

analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

generation

7th

7.13(C)

compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

8th

8.13(B)

describe the function of genes within chromosomes in determining inherited traits of offspring.

generator

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

genetic code

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

genetic drift

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

genetic material

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

genetics/heredity

4th

4.13(B)
differentiate between inherited and acquired physical traits of organisms.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

genome

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

genotype

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

genus

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

geosphere

6th

6.10(A)
differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system

geothermal

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

geotropism

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

glacier

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

glucose

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

gold-foil experiment

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

Golgi body/apparatus

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

graph

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

gravel

No TEKS assignments found for this visual.

gravitational constant

Phys

P.7(A)

calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)

apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

gravitational force

Phys

P.5(H)

describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

gravity

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(A)
identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

6.9(B)
describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

greenhouse gases

8th

8.11(A)
use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate

8.11(B)
use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate.

groundwater

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

grow/growth

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

guard cell

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

habitat

K

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(C)
record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

hail

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

hair

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

half-life

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

halogen

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

haploid

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

head

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

heat

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(A)
investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.9(A)
describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

heat/heating

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(A)
investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.9(A)
describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

heavy/heavier

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

hemisphere

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

herbivore

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

Hertzsprung-Russell diagram

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

heterogeneous

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

8th

8.6(A)
explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

heterotroph

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

heterozygous

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

hibernation

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

5th

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

homeostasis

Bio

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

homogeneous

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

8th

8.6(A)
explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

homologous chromosome

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

homology

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

homozygous

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

Hooke's law

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

host

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

hot

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

humidity

4th

4.10(C)
differentiate between weather and climate.

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

humus

No TEKS assignments found for this visual.

Hund's rule

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

hurricane

2nd

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

8th

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

hydrogen bond

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

hydrogen ion (H+)

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

hydrophilic

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

hydrophobic

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

hydropower

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

hydrosphere

6th

6.10(A)
differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

hydroxide ion (OH-)

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

icy

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

ideal gas law

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

igneous rock

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

immune cells

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

immune system

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

impact

Bio

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

imprint

3rd

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

4th

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

impulse

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

incomplete dominance

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

increase/increasing

No TEKS assignments found for this visual.

inelastic collision

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

inertia

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(E)
explain and apply the concepts of equilibrium and inertia as represented by Newton's first law of motion using relevant real-world examples such as rockets, satellites, and automobile safety devices

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

infect

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

ingredient

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

5th

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

inherited trait

4th

4.13(B)
differentiate between inherited and acquired physical traits of organisms.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

inner core

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

inner planet

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

instantaneous velocity

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

instinctual behavioral trait

5th

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

insulate/insulator/insulation

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

Phys

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

integumentary system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

interaction

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

interdependence

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

interphase

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

invasive species

Bio

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

inverse-square law

Phys

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

ion

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

ionic bond

Chem

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

ionization

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

ionization energy

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

isolation

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

isotope

Chem

C.6(D)
calculate average atomic mass of an element using isotopic composition.

jet stream

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

joule (J)

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Kelvin (K)

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

kinetic energy

6th

6.6(A)
compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules

6.8(A)
compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy

7th

7.8(C)
explain the relationship between temperature and the kinetic energy of the particles within a substance.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

C.10(A)
describe the postulates of the kinetic molecular theory

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

kinetic molecular theory

Chem

C.10(A)
describe the postulates of the kinetic molecular theory

lake

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

landform

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

landslide

3rd

3.10(C)
model and describe rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.

La Niña

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

larva

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

lava

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

Law of Action-Reaction (Newton's 3rd Law)

6th

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

Law of Conservation of Energy/1st law of thermodynamics

6th

6.8(A)
compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

6.5(E)
analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

Law of Conservation of Mass

4th

4.6(C)
demonstrate that matter is conserved when mixtures such as soil and water or oil and water are formed.

5th

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

law of conservation of momentum

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

law of definite proportions

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

Law of Force and Acceleration (Newton's 2nd Law)

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

law of independent assortment

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

Law of Inertia (Newton's 1st Law)

7th

7.7(D)
analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(E)
explain and apply the concepts of equilibrium and inertia as represented by Newton's first law of motion using relevant real-world examples such as rockets, satellites, and automobile safety devices

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

law of multiple proportions

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

law of segregation

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

leaf/leaves

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

leaf shape

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

learned behavioral trait

5th

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

length

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

lens

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

Lewis dot structure

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

life cycle

K

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

1st

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

light

K

K.8(A)
communicate the idea that objects can only be seen when a light source is present and compare the effects of different amounts of light on the appearance of objects.

K.8(B)
demonstrate and explain that light travels through some objects and is blocked by other objects, creating shadows.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

2nd

2.9(A)
describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light.

light/lighter

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

light energy

3rd

3.8(A)
identify everyday examples of energy, including light, sound, thermal, and mechanical.

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

light wave

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

limb

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

limiting reactant/reagent

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

lipid

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

lithosphere

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

living

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

3rd

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

4th

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

loam

No TEKS assignments found for this visual.

location

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

long-term environmental change

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

longitudinal wave

6th

6.8(C)
explain how energy is transferred through transverse and longitudinal waves.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

loudness

2nd

2.8(A)
demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound

2.8(B)
explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm.

2.8(C)
design and build a device using tools and materials that uses sound to solve the problem of communicating over a distance.

lunar cycle

4th

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

6th

6.9(B)
describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.

luster

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

lysogenic cycle

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

lysosome

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

lytic cycle

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

magma

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

7th

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

magnet

K

K.7(A)
Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

magnetic field

Phys

P.6(A)

use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)

identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

magnetic force

Phys

P.6(A)

use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)

identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

magnetism

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

6.7(A)
identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

magnitude

Phys

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

main group

Chem

C.7(B)

name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

malignant

Bio

B.6(A)

explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)

relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

malleability/malleable

6th

6.6(C)

identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

mantle

6th

6.10(B)

model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

mass

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.6(D)
compare the density of substances relative to various fluids.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

mass number

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(D)
calculate average atomic mass of an element using isotopic composition.

material

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.7(A)
Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

matter

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

4.6(C)
demonstrate that matter is conserved when mixtures such as soil and water or oil and water are formed.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

7th

7.6(C)
distinguish between physical and chemical changes in matter

mechanical energy

3rd

3.8(A)
identify everyday examples of energy, including light, sound, thermal, and mechanical.

4th

4.8(A)
investigate and identify the transfer of energy by objects in motion, waves in water, and sound

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

mechanical layers

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

medium

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

meiosis

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

melt/melting

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

1st

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.8(B)
describe how some changes caused by heat may be reversed such as melting butter and other changes cannot be reversed such as cooking an egg or baking a cake.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

mesophyll cell

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

metabolism/metabolic activity

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

metal

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

metallic bond

Chem

C.7(A)
construct an argument to support how periodic trends such as electronegativity can predict bonding between elements

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

metalloid

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

Chem

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

metamorphic rock

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

metamorphosis

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

meteor

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

8th

8.11(A)
use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate

microorganism

Bio

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

microwave

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.8(E)
compare the different applications of the electromagnetic spectrum, including radio telescopes, microwaves, and x-rays

mid-ocean ridge

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

migration

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

5th

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

mimicry

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

mirror

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

mitochondria/mitochondrion

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

mitosis

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

mixture

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

4th

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

4.6(C)
demonstrate that matter is conserved when mixtures such as soil and water or oil and water are formed.

5th

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

8th

8.6(A)
explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures

model

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

molarity

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

molar mass

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

molar ratio

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

mole

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

molecular homology

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

molecule

6th

6.6(A)
compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.8(C)
explain the relationship between temperature and the kinetic energy of the particles within a substance.

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

Chem

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

momentum (p)

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

monohybrid cross

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

monomer

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

mortality rate

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

motion/move/movement

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

mountain range/chain

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

mouth

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

mRNA

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

multicellular

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

muscular system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

mutation

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

mutualism

6th

6.12(B)
describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)
investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

native

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

natural disaster/hazard

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

natural gas

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

natural selection

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

nature/natural

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

2nd

2.11(A)
distinguish between natural and manmade resources.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

3rd

3.11(A)
explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products

3.11(B)
explain why the conservation of natural resources is important.

3.11(C)
identify ways to conserve natural resources through reducing, reusing, or recycling.

5th

5.11
Earth and space. The student understands how natural resources are important and can be managed. The student is expected to design and explain solutions such as conservation, recycling, or proper disposal to minimize environmental impact of the use of natural resources.

neap tide

6th

6.9(B)
describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.

needs

No TEKS assignments found for this visual.

nervous system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

net force

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

net ionic equation

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

neutralization reaction

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

neutron

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

Newton (N)

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

niche

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

nitrogen cycle

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

nitrogen fixation

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

nitrogenous base

Bio

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

noble gas

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

node

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

non-living

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

non-Mendelian

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

non-random mating

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

non-renewable resource

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

6th

6.11(A)*
Description unavailable right now.

6.11(B)*
Description unavailable right now.

nondisjunction

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

nonelectrolyte

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

nonmetal

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

Chem

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

normal force

6th

6.7(A)
identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

nuclear equation

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

nuclear force

Phys

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

nuclear power

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

nuclear stability

Chem

C.14(C)
give examples of applications of nuclear phenomena such as nuclear stability, radiation therapy, diagnostic imaging, solar cells, and nuclear power.

nucleic acid

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

nucleotide

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

nucleus (atomic)

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

nucleus (cellular)

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

nutrient absorption

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

nutrients

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

nymph

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

ocean

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

7th

7.11(B)
describe human dependence and influence on ocean systems and explain how human activities impact these systems.

ocean basin

7th

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

ocean tide

6th

6.9(B)
describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.

octet rule

Chem

C.7(C)

classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)

analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

offspring

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

4th

4.13(B)
differentiate between inherited and acquired physical traits of organisms.

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

Ohm’s law

Phys

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

omnivore

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

one-dimensional

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

open circuit

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

Phys

P.6D)
Description unavailable right now.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

orbit

2nd

2.9(A)
describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light.

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

orbital diagram

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

organ

7th

7.13(B)
describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

organelle

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

organism

K

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(C)
record and compare how being part of a group helps animals obtain food, defend themselves, and cope with changes.

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

3.12(D)
identify fossils as evidence of past living organisms and environments, including common Texas fossils.

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

4.12(C)
identify and describe past environments based on fossil evidence, including common Texas fossils.

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

4.13(B)
differentiate between inherited and acquired physical traits of organisms.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species

diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

organ system

7th

7.13(B)
describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

osmosis

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

outer core

6th

6.10(B)
model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.

outer planet

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

overcast

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

overpopulation

No TEKS assignments found for this visual.

oxidation-reduction reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

oxidation number

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

oxygen

7th

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

parallel circuit

Phys

P.6D)

Description unavailable right now.

P.6(E)

calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

parasitism/parasite

6th

6.12(B)

describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)

investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

parent

K

K.13(D)

identify ways that young plants resemble the parent plant.

1st

1.13(C)

compare ways that young animals resemble their parents.

2nd

2.13(D)

investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

4th

4.13(B)

differentiate between inherited and acquired physical traits of organisms.

particle

1st

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

5th

5.6(D)
illustrate how matter is made up of particles that are too small to be seen such as air in a balloon.

7th

7.8(C)
explain the relationship between temperature and the kinetic energy of the particles within a substance.

Chem

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.10(A)
describe the postulates of the kinetic molecular theory

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

partly cloudy

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

passive transport

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

path

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

pathogen

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

pattern

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

Pauli exclusion principle

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

pendulum

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

percent composition

Chem

C.8(A)
define mole and apply the concept of molar mass to convert between moles and grams

C.8(B)
calculate the number of atoms or molecules in a sample of material using Avogadro's number

C.8(C)
calculate percent composition of compounds.

C.8(D)
differentiate between empirical and molecular formulas.

percent yield

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

percolate

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

period (Periodic Table)

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

C.5(A)
explain the development of the Periodic Table over time using evidence such as chemical and physical properties

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

period (physics)

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

periodic law

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

Periodic Table of the Elements

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

7th

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

Chem

C.5(C)
analyze and interpret elemental data, including atomic radius, atomic mass, electronegativity, ionization energy, and reactivity to identify periodic trends.

perish

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

petroleum/oil

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

pH

8th

8.6(D)
compare and contrast the properties of acids and bases, including pH relative to water.

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

phase

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

phenotype

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

phloem

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

phosphate

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

phospholipid

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

photoelectric effect

Phys

P.9(A)
describe the photoelectric effect and emission spectra produced by various atoms and how both are explained by the photon model for light

P.8(F)
investigate the emission spectra produced by various atoms and explain the relationship to the electromagnetic spectrum.

photosynthesis

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

phototropism

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

phylogenetic

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

physical change

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

2nd

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

5th

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

7th

7.6(C)
distinguish between physical and chemical changes in matter

physical property

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

6th

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

Chem

C.5(A)

explain the development of the Periodic Table over time using evidence such as chemical and physical properties

physical state

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(D)
illustrate how matter is made up of particles that are too small to be seen such as air in a balloon.

6th

6.6(A)
compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume

relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

physiological adaptation

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

pioneer species

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

planet

3rd

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

plant

K

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

Plantae

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

plant cell

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

pOH

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

polarity

Chem

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

polarization

Phys

P.6(C)
investigate and describe conservation of charge during the processes of induction, conduction, and polarization using different materials such as electroscopes, balloons, rods, fur, silk, and Van de Graaf generators

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.9(B)
investigate Malus's Law and describe examples of applications of wave polarization, including 3-D movie glasses and LCD computer screens

pollution

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

polyatomic ion

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

polymer

Bio

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

polypeptide

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

pond

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

population

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

porous/porosity

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

position

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

position-time graph

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

potential energy

6th

6.8(A)
compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

C.10(A)
describe the postulates of the kinetic molecular theory

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

power

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

precipitate

6th

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

precipitation

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

4.10(C)
differentiate between weather and climate.

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

precipitation reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

predation

6th

6.12(B)
describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)
investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

predator/prey

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

pressure

5th

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

pressure system

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

prevailing winds

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

primary consumer

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

primary succession

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

prism

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

probability

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

producer

2nd

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

3rd

3.12(B)
identify and describe the flow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a field affect the ecosystem

4th

4.12(A)
investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter

4.12(B)
describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

product

1st

1.11(A)
identify and describe how plants, animals, and humans use rocks, soil, and water

2nd

2.11(A)
distinguish between natural and manmade resources.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

3rd

3.11(A)
explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

prokaryote

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

property

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

5.6(D)
illustrate how matter is made up of particles that are too small to be seen such as air in a balloon.

proportional

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

protein

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

B.5(A)
relate the functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids, to the structure and function of a cell

protist/Protista

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

proton

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

proximity

7th

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

pull

K

K.7(A)
Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

pupa

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

purebred

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

pure substance

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

push

K

K.7(A)
Force, motion, and energy. The student knows that forces cause changes in motion and position in everyday life. The student is expected to describe and predict how a magnet interacts with various materials and how magnets can be used to push or pull.

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

2nd

2.7(A)
explain how objects push on each other and may change shape when they touch or collide.

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

4th

4.7(A)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to plan and conduct descriptive investigations to explore the patterns of forces such as gravity, friction, or magnetism in contact or at a distance on an object.

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

quantum

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

Phys

P.9(C)
compare and explain how superposition of quantum states is related to the wave-particle duality nature of light.

P.9(D)
give examples of applications of quantum phenomena, including the Heisenberg uncertainty principle, quantum computing, and cybersecurity.

radiant/solar energy

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

radiation

7th

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)
investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

radioactive decay

Chem

C.14(A)
describe the characteristics of alpha, beta, and gamma radioactive decay processes in terms of balanced nuclear equations

C.14(B)
compare fission and fusion reactions.

radio wave

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.8(E)
compare the different applications of the electromagnetic spectrum, including radio telescopes, microwaves, and x-rays

rain

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

rain gauge

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

rainy

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

reactant

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

reactivity/reactive

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

real image

Phys

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

recessive

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

recombination

Bio

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

recycle/recycling

2nd

2.11(A)
distinguish between natural and manmade resources.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

reflection

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

refraction

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

P.8(G)
describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

regulation

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

relationship

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

renewable resource

4th

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

repel

3rd

3.7(B)
plan and conduct a descriptive investigation to demonstrate and explain how position and motion can be changed by pushing and pulling objects such as swings, balls, and wagons.

3.7(A)
demonstrate and describe forces acting on an object in contact or at a distance, including magnetism, gravity, and pushes and pulls.

reproduce/reproduction

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

reproductive fitness

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

reproductive fitness/success

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

reproductive system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

resemble

K

K.13(D)
identify ways that young plants resemble the parent plant.

1st

1.13(C)
compare ways that young animals resemble their parents.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

resistance (biological)

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

resistance (electrical)

Phys

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

resistor

Phys

P.6D)
Description unavailable right now.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

resonance

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

resource

2nd

2.11(A)
distinguish between natural and manmade resources.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

3rd

3.11(A)
explore and explain how humans use natural resources such as in construction, in agriculture, in transportation, and to make products

6th

6.11(A)*
Description unavailable right now.

6.11(B)*
Description unavailable right now.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

respiratory system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

response

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

retain

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

revolve/revolution

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

ribosome

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

river

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

2nd

2.10(A)
investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows

RNA (ribonucleic acid)

Bio

B.6(B)
explain the process of cell specialization through cell differentiation, including the role of environmental factors.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

RNA virus/retrovirus

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

rock

K

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

K.11(A)
Earth and space. The student knows that earth materials are important to everyday life. The student is expected to observe and generate examples of practical uses for rocks, soil, and water.

1st

1.10(B)
investigate and describe how water can move rock and soil particles from one place to another

1.11(A)
identify and describe how plants, animals, and humans use rocks, soil, and water

2nd

2.10(A)
investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows

3rd

3.10(B)
investigate and explain how soils such as sand and clay are formed by weathering of rock and by decomposition of plant and animal remains.

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

rock cycle

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

role

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

roll/rolling

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

roots

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

rotate/rotation

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

round and round

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

runoff

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

saltwater

No TEKS assignments found for this visual.

sand

No TEKS assignments found for this visual.

sand dune

2nd

2.10(A)
investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

sanding

2nd

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

satellite

No TEKS assignments found for this visual.

saturated solution

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

scalar

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

scales

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

seafloor spreading

7th

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

seasons

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

secondary consumer

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

secondary succession

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

sediment

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

sedimentary rock

5th

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

seed

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

seedling

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(C)
identify and record the changes from seed, seedling, plant, flower, and fruit in a simple plant life cycle.

K.13(D)
identify ways that young plants resemble the parent plant.

2nd

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

semi-permeable

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

senses

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

separate

4th

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

sequence

4th

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.9(B)
collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth.

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

series circuit

Phys

P.6D)
Description unavailable right now.

P.6(E)
calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

sexual reproduction

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

shadow

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

shape

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.10(A
Description unavailable right now.

)
Description unavailable right now.

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

shelter

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

1st

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

shoot system

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

short-term environmental change

No TEKS assignments found for this visual.

silt

No TEKS assignments found for this visual.

single-replacement reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

sink

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

size

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

skeletal system

7th

7.13(A)
identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

skin

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

sky

K

K.9(B)
observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.

2nd

2.9(B)
observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.

sleet

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

slide/sliding

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

small/smaller

No TEKS assignments found for this visual.

snow

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

snowy

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

soil

K

K.11(A)
Earth and space. The student knows that earth materials are important to everyday life. The student is expected to observe and generate examples of practical uses for rocks, soil, and water.

1st

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

1.10(B)
investigate and describe how water can move rock and soil particles from one place to another

1.11(A)
identify and describe how plants, animals, and humans use rocks, soil, and water

2nd

2.10(A)
investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows

3rd

3.10(B)
investigate and explain how soils such as sand and clay are formed by weathering of rock and by decomposition of plant and animal remains.

solar power

6th

6.11(A)
research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution, and

solar system

3rd

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

7th

7.9(A)
describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud

7.9(B)
describe how gravity governs motion within Earth's solar system.

7.9(C)
analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.

solstice

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

soluble/solubility

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.12(C)
differentiate between strong and weak acids and bases

solute

7th

7.6(D)
describe aqueous solutions in terms of solute and solvent, concentration, and dilution.

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

solution

4th

4.6(B)
investigate and compare a variety of mixtures, including solutions that are composed of liquids in liquids and solids in liquids.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

6th

6.6(B)
investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures

7th

7.6(D)
describe aqueous solutions in terms of solute and solvent, concentration, and dilution.

7.6(E)
investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

solvent

7th

7.6(D)
describe aqueous solutions in terms of solute and solvent, concentration, and dilution.

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

somatic cell

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

sound energy

2nd

2.8(A)
demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound

2.8(B)
explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm.

2.8(C)
design and build a device using tools and materials that uses sound to solve the problem of communicating over a distance.

3rd

3.8(A)
identify everyday examples of energy, including light, sound, thermal, and mechanical.

4th

4.8(A)
investigate and identify the transfer of energy by objects in motion, waves in water, and sound

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

sound wave

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

species

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(B)
predict how changes in the ecosystem affect the cycling of matter and flow of energy in a food web.

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

5.13(B)
explain how instinctual behavioral traits such as turtle hatchlings returning to the sea and learned behavioral traits such as orcas hunting in packs increase chances of survival.

6th

6.12(A)
investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition

6.12(C)
describe the hierarchical organization of organism, population, and community within an ecosystem.

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

B.13(C)
explain the significance of the carbon and nitrogen cycles to ecosystem stability and analyze the consequences of disrupting these cycles.

specific heat (cp)

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

spectral class

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

speed

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

7th

7.7(A)
calculate average speed using distance and time measurements from investigations

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

7.7(C)
measure, record, and interpret an object's motion using distance-time graphs.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

spin

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

spindle fiber

Bio

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

spinning

2nd

2.7(B)
plan and conduct a descriptive investigation to demonstrate how the strength of a push and pull changes an object's motion.

spring

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

spring tide

6th

6.9(B)
describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.

stability/stable

8th

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

Bio

B.13(D)
explain how environmental change, including change due to human activity, affects biodiversity and analyze how changes in biodiversity impact ecosystem stability.

stage

1st

1.13(B)
record observations of and describe basic life cycles of animals, including a bird, a mammal, and a fish.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

3rd

3.13(B)
explore, illustrate, and compare life cycles in organisms such as beetles, crickets, radishes, or lima beans.

standard temperature and pressure (STP)

Chem

C.10(B)
describe and calculate the relationships among volume, pressure, number of moles, and temperature for an ideal gas.

C.10(C)
define and apply Dalton's law of partial pressure.

standing wave

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

star

K

K.9(B)
observe, describe, and illustrate the Sun, Moon, stars, and objects in the sky such as clouds.

2nd

2.9(A)
describe the Sun as a star that provides light and heat and explain that the Moon reflects the Sun's light.

2.9(B)
observe objects in the sky using tools such as a telescope and compare how objects in the sky are more visible and can appear different with a tool than with an unaided eye.

3rd

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

star evolution

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

stasis

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

state of matter

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(D)
illustrate how matter is made up of particles that are too small to be seen such as air in a balloon.

6th

6.6(A)
compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules

6.6(C)
identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life

6.6(E)
identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume

relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

stem

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

stimulus/stimuli

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

stoma/stomata

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

storm system

8th

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

straight line

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

stream

1st

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

1.11(C)
describe ways to conserve water such as turning off the faucet when brushing teeth and protect natural sources of water such as keeping trash out of bodies of water.

structural adaptation

8th

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

structure

K

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

3rd

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

5th

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

subatomic particle

Chem

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

subduction zone

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

subscript

7th

7.6(A)
compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas

7.6(B)
use the periodic table to identify the atoms and the number of each kind within a chemical formula

8th

8.6(B)
use the periodic table to identify the atoms involved in chemical reactions

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

substance

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

5.6(C)
compare the properties of substances before and after they are combined into a solution and demonstrate that matter is conserved in solutions.

6th

6.6(D)
compare the density of substances relative to various fluids.

substrate

Bio

B.11(A)
explain how matter is conserved and energy is transferred during photosynthesis and cellular respiration using models, including the chemical equations for these processes.

B.11(B)
investigate and explain the role of enzymes in facilitating cellular processes.

summer

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

sunlight

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

1st

1.8(A)
investigate and describe applications of heat in everyday life such as cooking food or using a clothes dryer.

1.12(A)
classify living and nonliving things based upon whether they have basic needs and produce young

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

sunny

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

sunrise/sunset

5th

5.9(A)
Earth and space. The student recognizes patterns among the Sun, Earth, and Moon system and their effects. The student is expected to demonstrate that Earth rotates on its axis once approximately every 24 hours and explain how that causes the day/night cycle and the appearance of the Sun moving across the sky, resulting in changes in shadow positions and shapes.

supersaturated solution

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

surface area

7th

7.6(E)
investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.

Chem

C.11(C)
investigate how solid and gas solubilities are influenced by temperature using solubility curves and how rates of dissolution are influenced by temperature, agitation, and surface area

surface temperature

8th

8.9(A)
describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram

8.9(B)
categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

surface tension

8th

8.6(C)
describe the properties of cohesion, adhesion, and surface tension in water and relate to observable phenomena such as the formation of droplets, transport in plants, and insects walking on water

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

surface water

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

survive/survival

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

K.13(A)
identify the structures of plants, including roots, stems, leaves, flowers, and fruits

2nd

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

3rd

3.13(A)
explore and explain how external structures and functions of animals such as the neck of a giraffe or webbed feet on a duck enable them to survive in their environment.

4th

4.13(A)
explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment.

5th

5.12(A)
observe and describe how a variety of organisms survive by interacting with biotic and abiotic factors in a healthy ecosystem

5.12(C)
describe a healthy ecosystem and how human activities can be beneficial or harmful to an ecosystem.

5.13(A)
analyze the structures and functions of different species to identify how organisms survive in the same environment.

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

Bio

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

sustainability

8th

8.12(B)
describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity.

8.12(C)
describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.

switch

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

5th

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

symbiosis/symbiotic relationship

6th

6.12(B)
describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.

Bio

B.13(A)
investigate and evaluate how ecological relationships, including predation, parasitism, commensalism, mutualism, and competition, influence ecosystem stability

synthesis

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

synthesis reaction

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

system

1st

1.6(C)
demonstrate and explain that a whole object is a system made of organized parts such as a toy that can be taken apart and put back together.

2nd

1.6(C)
demonstrate and explain that a whole object is a system made of organized parts such as a toy that can be taken apart and put back together.

5th

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

tail

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

tangential velocity

Phys

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

taxon/taxa/taxonomic group

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

7.14(B)
describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

tectonic plates

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

temperature

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

4.9(A)
collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight.

4.10(C)
differentiate between weather and climate.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

7th

7.6(E)
investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)
investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium.

7.8(C)
explain the relationship between temperature and the kinetic energy of the particles within a substance.

terrarium

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

tertiary consumer

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

texture

K

K.6(A)
Matter and its properties. The student knows that objects have physical properties that determine how they are described and classified. The student is expected to identify and record observable physical properties of objects, including shape, color, texture, and material, and generate ways to classify objects.

K.10(A)
describe and classify rocks by the observable properties of size, shape, color, and texture

1st

1.6(A)
classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter

1.6(B)
explain and predict changes in materials caused by heating and cooling.

1.10(A)
investigate and document the properties of particle size, shape, texture, and color and the components of different types of soils such as topsoil, clay, and sand

2nd

2.6(A)
classify matter by observable physical properties, including texture, flexibility, and relative temperature, and identify whether a material is a solid or liquid

2.6(B)
conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing.

2.6(C)
demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties.

3rd

3.6(D)
demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties.

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

5th

5.6(B)
demonstrate and explain that some mixtures maintain physical properties of their substances such as iron filings and sand or sand and water

thaw/thawing

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

thermal energy

3rd

3.8(A)
identify everyday examples of energy, including light, sound, thermal, and mechanical.

3.9(A)
construct models and explain the orbits of the Sun, Earth, and Moon in relation to each other.

3.9(B)
identify the order of the planets in Earth's solar system in relation to the Sun.

4th

4.8(B)
identify conductors and insulators of thermal and electrical energy.

4.8(C)
demonstrate and describe how electrical energy travels in a closed path that can produce light and thermal energy.

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

5.8(A)
investigate and describe the transformation of energy in systems such as energy in a flashlight battery that changes from chemical energy to electrical energy to light energy

5.8(B)
demonstrate that electrical energy in complete circuits can be transformed into motion, light, sound, or thermal energy and identify the requirements for a functioning electrical circuit.

6th

6.8(B)
describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.

7th

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)
investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium.

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

Phys

P.7(B)
investigate and calculate mechanical, kinetic, and potential energy of a system

thigmotropism

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

thrive

3rd

3.12(A)
explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy

3.12(C)
describe how natural changes to the environment such as floods and droughts cause some organisms to thrive and others to perish or move to new locations.

tilt

6th

6.9(A)
model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.

tissue

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

7th

7.13(B)
describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

titration

Chem

C.12(B)
define acids and bases and distinguish between Arrhenius and Bronsted-Lowry definitions

C.12(D)
predict products in acid-base reactions that form water.

C.12(E)
define pH and calculate the pH of a solution using the hydrogen ion concentration.

tolerance (ecological)

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

topsoil

No TEKS assignments found for this visual.

trait

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.7(A)
identify components of DNA, explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origin of DNA

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

transcription

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

B.6(A)
explain the importance of the cell cycle to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models

B.6(C)
relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

transfer

1st

1.12(B)
describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums.

1.12(C)
identify and illustrate how living organisms depend on each other through food chains.

2nd

2.12(B)
create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things.

7th

7.8(A)
investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation

7.8(B)
investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium.

8th

8.12(A)
explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems

Chem

C.13(B)
investigate the process of heat transfer using calorimetry

C.13(C)
classify processes as exothermic or endothermic and represent energy changes that occur in chemical reactions using thermochemical equations or graphical analysis.

transform boundary

7th

7.10(A)
describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition.

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

transformer

Phys

P.6(A)
use scientific notation and predict how the magnitude of the electric force between two objects depends on their charges and the distance between their centers using Coulomb's law

P.6(B)
identify and describe examples of electric and magnetic forces and fields in everyday life such as generators, motors, and transformers

transition metal

Chem

C.7(B)
name and write the chemical formulas for ionic and covalent compounds using International Union of Pure and Applied Chemistry (IUPAC) nomenclature rules

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

translation

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

transmit/transmission

5th

5.8(C)
demonstrate and explain how light travels in a straight line and can be reflected, refracted, or absorbed.

transpiration

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

transport

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

transverse wave

6th

6.8(C)
explain how energy is transferred through transverse and longitudinal waves.

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

Phys

P.8(A)
examine and describe simple harmonic motion such as masses on springs and pendulums and wave energy propagation in various types of media such as surface waves on a body of water and pulses in ropes

P.8(D)
investigate behaviors of waves, including reflection, refraction, diffraction, interference, standing wave, the Doppler effect and polarization and superposition.

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

tRNA

Bio

B.7(B)
describe the significance of gene expression and explain the process of protein synthesis using models of DNA and ribonucleic acid (RNA)

trophic level

7th

7.12(A)
diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids.

7.12(B)
describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.

Bio

B.13(B)
analyze how ecosystem stability is affected by disruptions to the cycling of matter and flow of energy through trophic levels using models

trough

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

tsunami

7th

7.10(B)
describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

two-dimensional

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

unbalanced force

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(D)
analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

unequal force

5th

5.7(A)
investigate and explain how equal and unequal forces acting on an object cause patterns of motion and transfer of energy.

5.7(B)
design a simple experimental investigation that tests the effect of force on an object in a system such as a car on a ramp or a balloon rocket on a string.

6th

6.7(B)
calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(D)
analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.

8th

8.7(A)
calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion.

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

unicellular

6th

6.13(A)
describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function

6.13(B)
identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic.

7th

7.14(A)
describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups.

universal gravitation

Phys

P.5(H)
describe and calculate, using scientific notation, how the magnitude of force between two objects depends on their masses and the distance between their centers, and predict the effects on objects in linear and orbiting systems using Newton's law of universal gravitation.

unsaturated solution

Chem

C.11(A)
describe the unique role of water in solutions in terms of polarity

C.11(D)
investigate the general rules regarding solubility and predict the solubility of the products of a double replacement reaction

C.11(E)
calculate the concentration of solutions in units of molarity.

C.11(F)
calculate the dilutions of solutions using molarity.

C.11(B)
distinguish among types of solutions, including electrolytes and nonelectrolytes and unsaturated, saturated, and supersaturated solutions

C.12(C)
differentiate between strong and weak acids and bases

up and down

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

uracil

Bio

B.7(C)
identify and illustrate changes in DNA and evaluate the significance of these changes.

urbanization

8th

8.11(B)
use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate.

useful

K

K.11(A)
Earth and space. The student knows that earth materials are important to everyday life. The student is expected to observe and generate examples of practical uses for rocks, soil, and water.

1st

1.11(A)
identify and describe how plants, animals, and humans use rocks, soil, and water

2nd

2.11(A)
distinguish between natural and manmade resources.

2.11(B)
describe how human impact can be limited by making choices to conserve and properly dispose of materials such as reducing use of, reusing, or recycling paper, plastic, and metal.

vaccine

Bio

B.5(D)
compare the structures of viruses to cells and explain how viruses spread and cause disease.

vacuole

8th

8.13(A)
identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

valence electron

Chem

C.5(B)
predict the properties of elements in chemical families, including alkali metals, alkaline earth metals, halogens, noble gases, and transition metals, based on valence electrons patterns using the Periodic Table.

C.6(A)
construct models using Dalton's Postulates, Thomson's discovery of electron properties, Rutherford's nuclear atom, Bohr's nuclear atom, and Heisenberg's Uncertainty Principle to show the development of modern atomic theory over time

C.6(B)
describe the structure of atoms and ions, including the masses, electrical charges, and locations of protons and neutrons in the nucleus and electrons in the electron cloud

C.6(E)
construct models to express the arrangement of electrons in atoms of representative elements using electron configurations and Lewis dot structures.

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

valley

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

variation

6th

6.13(C)
describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.

7th

7.13(C)
compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time.

7.13(D)
describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.

8th

8.13(B)
describe the function of genes within chromosomes in determining inherited traits of offspring.

8.13(C)
describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.

Bio

B.8(B)
predict possible outcomes of various genetic combinations using monohybrid and dihybrid crosses, including non-Mendelian traits of incomplete dominance, codominance, sex-linked traits, and multiple alleles.

B.8(A)
analyze the significance of chromosome reduction, independent assortment, and crossing-over during meiosis in increasing diversity in populations of organisms that reproduce sexually.

B.10(A)
analyze and evaluate how natural selection produces change in populations and not in individuals

B.10(B)
analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success

B.10(C)
analyze and evaluate how natural selection may lead to speciation.

B.10(D)
analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.

vasculature

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

vector

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

P.5(F)
calculate the effect of forces on objects, including tension, friction, normal, gravity, centripetal, and applied forces, using free body diagrams and the relationship between force and acceleration as represented by Newton's second law of motion

P.5(G)
illustrate and analyze the simultaneous forces between two objects as represented in Newton's third law of motion using free body diagrams and in an experimental design scenario.

velocity

6th

6.7(C)
identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.

7th

7.7(B)
distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction

8th

8.7(B)
investigate and describe how Newton's three laws of motion act simultaneously within systems such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

P.5(D)
describe and analyze acceleration in uniform circular and horizontal projectile motion in two dimensions using equations

velocity-time graph

Phys

P.5(A)
analyze different types of motion by generating and interpreting position versus time, velocity versus time, and acceleration versus time using hand graphing and real-time technology such as motion detectors, photogates, or digital applications

P.5(B)
define scalar and vector quantities related to one- and two-dimensional motion and combine vectors using both graphical vector addition and the Pythagorean theorem

P.5(C)
describe and analyze motion in one dimension using equations with the concepts of distance, displacement, speed, velocity, frames of reference, and acceleration

vesicle

Bio

B.5(B)
compare and contrast prokaryotic and eukaryotic cells, including their complexity, and compare and contrast scientific explanations for cellular complexity

B.5(C)
investigate homeostasis through the cellular transport of molecules.

vestigial structure

Bio

B.9(A)
analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental.

B.9(B)
examine scientific explanations for varying rates of change such as gradualism, abrupt appearance, and stasis in the fossil record.

vibration

2nd

2.8(A)
demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound

2.8(B)
explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm.

2.8(C)
design and build a device using tools and materials that uses sound to solve the problem of communicating over a distance.

5th

5.7(C)
Force, motion, and energy. The student knows the nature of forces and the patterns of their interactions. The student is expected to:

virtual image

Phys

P.8(G)

describe and predict image formation as a consequence of reflection from a plane mirror and refraction through a thin convex lens.

virus

Bio

B.5(D)

compare the structures of viruses to cells and explain how viruses spread and cause disease.

volcano

3rd

3.10(C)

model and describe rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides.

7th

7.10(B)

describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.

8th

8.11(A)

use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate

voltage

Phys

P.6(E)

calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

voltmeter

Phys

P.6D)

Description unavailable right now.

P.6(E)

calculate current through, potential difference across, resistance of, and power used by electric circuit elements connected in both series and parallel circuits using Ohm's law.

volume

2nd

2.8(A)
demonstrate and explain that sound is made by vibrating matter and that vibrations can be caused by a variety of means, including sound

2.8(B)
explain how different levels of sound are used in everyday life such as a whisper in a classroom or a fire alarm.

2.8(C)
design and build a device using tools and materials that uses sound to solve the problem of communicating over a distance.

4th

4.6(A)
classify and describe matter using observable physical properties, including temperature, mass, magnetism, relative density (the ability to sink or float in water), and physical state (solid, liquid, gas)

5th

5.6(A)
compare and contrast matter based on measurable, testable, or observable physical properties, including mass, magnetism, relative density (sinking and floating using water as a reference point), physical state (solid, liquid, gas), volume, solubility in water, and the ability to conduct or insulate thermal energy and electric energy

VSEPR theory

Chem

C.7(C)
classify and draw electron dot structures for molecules with linear, bent, trigonal planar, trigonal pyramidal, and tetrahedral molecular geometries as explained by Valence Shell Electron Pair Repulsion (VSEPR) theory.

C.7(D)
analyze the properties of ionic, covalent, and metallic substances in terms of intramolecular and intermolecular forces.

warm

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

K.9(A)
identify, describe, and predict the patterns of day and night and their observable characteristics.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

warm front

8th

8.10(C)
describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

water

K

K.12(B)
observe and identify the dependence of animals on air, water, food, space, and shelter.

K.12(A)
observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow.

K.11(A)
Earth and space. The student knows that earth materials are important to everyday life. The student is expected to observe and generate examples of practical uses for rocks, soil, and water.

1st

1.11(A)
identify and describe how plants, animals, and humans use rocks, soil, and water

1.10(C)
compare the properties of puddles, ponds, streams, rivers, lakes, and oceans, including color, clarity, size, shape, and whether it is freshwater or saltwater.

2nd

2.10(A)
investigate and describe how wind and water move soil and rock particles across the Earth's surface such as wind blowing sand into dunes on a beach or a river carrying rocks as it flows

2.12(A)
describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem

2.12(C)
explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around.

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

2.13(A)
identify the roots, stems, leaves, flowers, fruits, and seeds of plants and compare how those structures help different plants meet their basic needs for survival

4th

4.11(C)
determine the physical properties of rocks that allow Earth's natural resources to be stored there.

4.11(A)
identify and explain advantages and disadvantages of using Earth's renewable and nonrenewable natural resources such as wind, water, sunlight, plants, animals, coal, oil, and natural gas

water cycle

4th

4.10(A)
describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

watershed

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

water table

7th

7.11(A)
analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed.

water vapor

3rd

3.6(A)
measure, test, and record physical properties of matter, including temperature, mass, magnetism, and the ability to sink or float in water

3.6(B)
describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container

3.6(C)
predict, observe, and record changes in the state of matter caused by heating or cooling in a variety of substances such as ice becoming liquid water, condensation forming on the outside of a glass, or liquid water being heated to the point of becoming water vapor (gas).

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

wave

4th

4.8(A)
investigate and identify the transfer of energy by objects in motion, waves in water, and sound

wave-particle duality

Phys

P.8(F)
investigate the emission spectra produced by various atoms and explain the relationship to the electromagnetic spectrum.

P.9(A)
describe the photoelectric effect and emission spectra produced by various atoms and how both are explained by the photon model for light

P.9(C)
compare and explain how superposition of quantum states is related to the wave-particle duality nature of light.

wavelength

8th

8.8(A)
compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum.

8.8(B)
explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays.

Chem

C.6(C)
investigate the mathematical relationship between energy, frequency, and wavelength of light using the electromagnetic spectrum and relate it to the quantization of energy in the emission spectrum

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

wave speed

Phys

P.8(C)
investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationships between wave speed, frequency, and wavelength

weather

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

4th

4.10(C)
differentiate between weather and climate.

5th

5.10(A)
explain how the Sun and the ocean interact in the water cycle and affect weather

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

weathering

3rd

3.10(B)
investigate and explain how soils such as sand and clay are formed by weathering of rock and by decomposition of plant and animal remains.

4th

4.10(B)
model and describe slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.

5th

5.10(C)
model and identify how changes to Earth's surface by wind, water, or ice result in the formation of landforms, including deltas, canyons, and sand dunes.

5.10(B)
model and describe the processes that led to the formation of sedimentary rocks and fossil fuels.

6th

6.10(C)
describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.

weather map

8th

8.10(A)
describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate

8.10(B)
identify global patterns of atmospheric movement and how they influence local weather.

wind

K

K.10(C)
identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon.

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.10(D)
describe and record observable characteristics of weather, including hot or cold, clear or cloudy, calm or windy, and rainy or icy, and explain the impact of weather on daily choices.

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

wind condition

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

wind direction

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

windsock

2nd

2.10(B)
measure, record, and graph weather information, including temperature and precipitation.

2.10(C)
investigate different types of severe weather events such as a hurricane, tornado, or flood and explain that some events are more likely than others in a given region.

wind vane

2nd

2.1(D)
use tools, including hand lenses, goggles, heat-resistant gloves, trays, cups, bowls, beakers, notebooks, stream tables, soil, sand, gravel, flowering plants, student thermometer, demonstration thermometer, rain gauge, flashlights, ramps, balls, spinning tops, drums, tuning forks, sandpaper, wax paper, items that are flexible, non-flexible items, magnets, hot plate, aluminum foil, Sun-Moon-Earth model, and frog and butterfly life cycle models to observe, measure, test, and compare

3rd

3.10(A)
compare and describe day-to-day weather in different locations at the same time, including air temperature, wind direction, and precipitation

wing

K

K.13(B)
identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects

1st

1.13(A)
identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival

2nd

2.13(B)
record and compare how the structures and behaviors of animals help them find and take in food, water, and air

winter

K

K.10(B)
observe and describe weather changes from day to day and over seasons.

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

work

Phys

P.7(D)
calculate and describe the impulse and momentum of objects in physical systems such as automobile safety features, athletics, and rockets.

P.7(E)
analyze the conservation of momentum qualitatively in inelastic and elastic collisions in one dimension using models, diagrams, and simulations.

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

work-energy theorem

Phys

P.7(A)
calculate and explain work and power in one dimension and identify when work is and is not being done by or on a system

P.7(C)
apply the concept of conservation of energy using the work-energy theorem, energy diagrams, and energy transformation equations, including transformations between kinetic, potential, and thermal energy

x-ray

Chem

C.14(C)
give examples of applications of nuclear phenomena such as nuclear stability, radiation therapy, diagnostic imaging, solar cells, and nuclear power.

Phys

P.8(B)
compare the characteristics of transverse and longitudinal waves, including electromagnetic and sound waves

P.8(E)
compare the different applications of the electromagnetic spectrum, including radio telescopes, microwaves, and x-rays

xylem

Bio

B.12(A)
analyze the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.

B.12(B)
explain how the interactions that occur among systems that perform functions of transport, reproduction, and response in plants are facilitated by their structures.

year

1st

1.9(A)
Earth and space. The student knows that the natural world has recognizable patterns. The student is expected to describe and predict the patterns of seasons of the year such as order of occurrence and changes in nature.

yield

8th

8.6(E)
investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.

Chem

C.9(A)
interpret, write, and balance chemical equations, including synthesis, decomposition, single replacement, double replacement, and combustion reactions using the law of conservation of mass

C.9(B)
differentiate among acid-base reactions, precipitation reactions, and oxidation-reduction reactions

C.9(C)
perform stoichiometric calculations, including determination of mass relationships, gas volume relationships, and percent yield.

C.9(D)
describe the concept of limiting reactants in a balanced chemical equation.

young

K

K.13(D)
identify ways that young plants resemble the parent plant.

1st

1.13(C)
compare ways that young animals resemble their parents.

2nd

2.13(D)
investigate and describe some of the unique life cycles of animals where young animals do not resemble their parents, including butterflies and frogs.

zigzag

1st

1.7(A)
explain how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

1.7(B)
plan and conduct a descriptive investigation that predicts how pushes and pulls can start, stop, or change the speed or direction of an object's motion.

10 less

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

10 more

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

100 less

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

100 more

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

a.m.

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

about/approximately

1st

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(E)
determine a solution to a problem involving length, including estimating lengths

3rd

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)
round decimals to tenths or hundredths.

absolute value

6th

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.6(D)
formulate absolute value linear equations

2A.6(E)
solve absolute value linear equations

2A.6(F)
solve absolute value linear inequalities

acute angle

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

addition

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

additive pattern

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

6th

6.4(A)
solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

6.6(A)
apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

6.6(B)
calculate unit rates from rates in mathematical and real-world problems.

6.6(C)
convert within and between measurement systems, including the use of proportions and the use of unit rates.

additive pattern/relationship

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

6th

6.4(A)
solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

6.6(A)
apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

6.6(B)
calculate unit rates from rates in mathematical and real-world problems.

6.6(C)
convert within and between measurement systems, including the use of proportions and the use of unit rates.

adjacent angle

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

angle

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

Geom

G.4(A)
distinguish between undefined terms, definitions, postulates, conjectures, and theorems

G.4(B)
identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse

G.4(C)
verify that a conjecture is false using a counterexample.

G.4(D)
compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these

relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

annual salary

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

area

2nd

2.9(F)
use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.

3rd

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate

comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

area model

3rd

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

area model for division

3rd

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

5th

5.3(D)
represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models

5.3(E)
solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(I)
represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

area model for multipication

3rd

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

5th

5.3(D)
represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models

5.3(E)
solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(I)
represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

area model for multiplication

3rd

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

5th

5.3(D)
represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models

5.3(E)
solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(I)
represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

area of the base

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of

measure.

array

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

asset

7th

7.13(B)

compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)

simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

association/correlation

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a

function

A.12(C)

evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)

identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

association/correlation/trend

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a

function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

associative property

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

asymmetrical

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

asymptote

Alg 1

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

attribute

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

availability of resources

3rd

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

axis/axes

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

axis/line of symmetry

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

balanced budget

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

bankruptcy

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

bar graph

1st

1.8(C)
draw conclusions and generate and answer questions using information from picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

base

No TEKS assignments found for this visual.

base/Base

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

Alg 2

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.5(C)
rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations

benchmark fraction

4th

4.3(E)
represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations

4.3(F)
evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

6th

6.4(E)
represent ratios and percents with concrete models, fractions, and decimals

6.4(F)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers

6.4(G)
generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.

6.5(B)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(C)
represent ratios and percents with concrete models, fractions, and decimals.

benchmark percent

6th

6.4(E)
represent ratios and percents with concrete models, fractions, and decimals

6.4(F)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers

6.4(G)
generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.

6.5(B)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(C)
represent ratios and percents with concrete models, fractions, and decimals.

billions

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

bills

3rd

3.4(C)
determine the value of a collection of coins and bills

binomial

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

borrow

3rd

3.9(D)
explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

borrower

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

borrowing

2nd

2.11(D)
identify examples of borrowing and distinguish between responsible and irresponsible borrowing

2.11(E)
identify examples of lending and use concepts of benefits and costs to evaluate lending decisions.

box plot

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

bracket

5th

5.4(E)
describe the meaning of parentheses and brackets in a numeric expression

5.4(F)
simplify numerical expressions that do not involve exponents, including up to two levels of grouping

budget

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

cardinal directions

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

category

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

causation

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

cent (¢)

K

K.4(A)
Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

1st

1.4(A)
identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them

1.4(B)
write a number with the cent symbol to describe the value of a coin.

1.4(C)
use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

2nd

2.5(A)
determine the value of a collection of coins up to one dollar.

2.5(B)
use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

center

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

center mark

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

center of dilation

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

center of rotation

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

certificate of deposit

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

charity

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

check

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

circle

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)

derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

circle graph

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

circumference

7th

7.5(B)
generalize the critical attributes of similarity, including ratios within and between similar shapes

7.8(C)
identify examples of proportional and non-proportional relationships that arise from mathematical and real-world problems.

7.9(B)
determine the circumference and area of circles

8th

8.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

clock

1st

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

clockwise/counter-clockwise

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

close to

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

1st

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

2.9(F)
use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)

round decimals to tenths or hundredths.

coefficient

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

A.9(A)

determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

coin

K

K.4(A)
Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

college

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

column

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

common denominator

4th

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

Alg 2

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

commutative property

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

comparing

1st

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

1.8(C)
draw conclusions and generate and answer questions using information from picture and bar-type graphs.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

3.8(B)
solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

compatible number

3rd

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)
round decimals to tenths or hundredths.

complement

7th

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

complementary angles

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

complete the square

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

compose

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

composite figure

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11
Geometric expressions, equations, and relationships--applications of geometric concepts. The student applies mathematical process standards to solve geometric problems. The student is expected to:

(C)
Description unavailable right now.

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

composite number

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

compound event

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

compound interest

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

8th

8.12(A)
identify functions using sets of ordered pairs and mappings

8.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

8.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

8.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

8.12(G)
estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

cone

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

congruence

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

congruent

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

7th

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

constant

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

constant rate of change

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

consumer

2nd

2.11(F)
differentiate between producers and consumers and calculate the cost to produce a simple item.

converse of the Pythagorean theorem

8th

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

conversion

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

coordinate plane

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

correlation coefficient

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a

function

A.12(C)

evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)

identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

correlation strength

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

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construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a

function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

corresponding side length/angle

7th

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

cost

2nd

2.11(F)
differentiate between producers and consumers and calculate the cost to produce a simple item.

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

4th

4.10(B)
calculate profit in a given situation

counting backward

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

counting forward

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
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use comparative language to describe two numbers up to 20 presented as written numerals.

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1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

counting words

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

count on

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

coupon

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

credit

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

3.9(D)
explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

credit card

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

credit limit

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

credit report

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

cube

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

cubic unit

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

curved/straight

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

curved surface

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

customary (capacity)

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

customary (length)

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

customary (weight)

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

customary capacity

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

customary length

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

customary weight

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

cylinder

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

data

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

data/information

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

data point

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

debit card

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

debt

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

decimal

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

decompose

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

deduction

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

degree (angle)

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

degree (polynomial)

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

Alg 2

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

denominator

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

3.3(C)
explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

3.3(D)
compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$

3.6(E)
decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(A)
represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b>0$, including when $a>b$

4.3(B)
decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.3(E)
represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations

4.3(F)
evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 2

2A.7(G)
rewrite radical expressions that contain variables to equivalent forms

2A.7(H)
solve equations involving rational exponents.

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

dependent event

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

dependent quantity

6th

6.4(A)
solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

6.6(A)
apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

6.6(B)
calculate unit rates from rates in mathematical and real-world problems.

6.6(C)
convert within and between measurement systems, including the use of proportions and the use of unit rates.

7th

7.7(A)
represent solutions for one-variable, two-step inequalities on number lines

deposit

2nd

2.11(A)
calculate how money saved can accumulate into a larger amount over time

2.11(B)
explain that saving is an alternative to spending

2.11(C)
distinguish between a deposit and a withdrawal

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

diameter

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.5(B)
generalize the critical attributes of similarity, including ratios within and between similar shapes

7.8(C)
identify examples of proportional and non-proportional relationships that arise from mathematical and real-world problems.

7.9(B)
determine the circumference and area of circles

8th

8.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

difference

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

4th

4.4(A)
add and subtract whole numbers and decimals to the hundredths place using the standard algorithm

4.3(E)
represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations

4.3(F)
evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

5th

5.3(K)
add and subtract positive rational numbers fluently.

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.4(A)
identify prime and composite numbers

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

6th

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 2

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

digit

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

dilation/dilated

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

dime

K

K.4(A)

Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

1st

1.4(A)

identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them

1.4(B)

write a number with the cent symbol to describe the value of a coin.

1.4(C)

use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

2nd

2.5(A)

determine the value of a collection of coins up to one dollar.

2.5(B)

use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

3rd

3.4(C)

determine the value of a collection of coins and bills

dimensions

3rd

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

3.7(B)
determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

direct variation

8th

8.5(A)
solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

8.5(E)
solve problems involving direct variation

Alg 1

A.2(D)
write and solve equations involving direct variation

A.5(A)
solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

A.12(E)
write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.

discount

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

distance

1st

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

distributive property

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

Alg 1

A.2(D)
write and solve equations involving direct variation

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(A)
solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

A.12(E)
write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.

dividend

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

4th

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

divisible

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

division

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

6th

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

divisor

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

4th

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

dollar ($)

2nd

2.5(A)
determine the value of a collection of coins up to one dollar.

2.5(B)
use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

3rd

3.4(C)
determine the value of a collection of coins and bills

domain

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)

describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(C)
rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$,

$f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

dot plot

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

doubles

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

edge

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

edge/side length

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

eighths

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

electronic payment

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

employer/employee

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

equal groups

2nd

2.6(A)
model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

2.6(B)
model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.

2.7(A)
determine whether a number up to 40 is even or odd using pairings of objects to represent the number

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

equally likely

7th

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

equal parts/equal shares

1st

1.6(G)
partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.

1.6(H)
identify examples and non-examples of halves and fourths.

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

3.3(C)
explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

3.3(D)
compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$

3.6(E)
decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

equal to (=)

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.8(B)

solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

8th

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

equation

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y1 = m(x - x1)$, given one point and the slope and given two points

A.2(C)

write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Alg 2

2A.6(D)
formulate absolute value linear equations

2A.6(E)
solve absolute value linear equations

2A.6(F)
solve absolute value linear inequalities

equation/number sentence

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including $y = mx + b$, $Ax + By = C$, and $y - y1 = m(x - x1)$, given one point and the slope and given two points

A.2(C)

write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Alg 2

2A.6(D)
formulate absolute value linear equations

2A.6(E)
solve absolute value linear equations

2A.6(F)
solve absolute value linear inequalities

equilateral triangle

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

equivalent

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.4(E)
represent ratios and percents with concrete models, fractions, and decimals

6.4(F)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers

6.4(G)
generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.

6.5(B)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(C)
represent ratios and percents with concrete models, fractions, and decimals.

Alg 1

A.2(D)
write and solve equations involving direct variation

A.5(A)
solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

A.12(E)
write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)

decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

equivalent expression

5th

5.4(E)
describe the meaning of parentheses and brackets in a numeric expression

5.4(F)
simplify numerical expressions that do not involve exponents, including up to two levels of grouping

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

equivalent fraction

3rd

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

estimate

3rd

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)
round decimals to tenths or hundredths.

even

2nd

2.6(A)
model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

2.6(B)
model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.

2.7(A)
determine whether a number up to 40 is even or odd using pairings of objects to represent the number

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

expanded form

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

expanded notation

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

expense

4th

4.10(B)
calculate profit in a given situation

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

7.13(A)
use data from a random sample to make inferences about a population

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

experimental data

7th

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

experimental probability

7th

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

exponent/power

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

Alg 1

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

A.11(A)
simplify numerical radical expressions involving square roots.

Alg 2

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.5(C)
rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

2A.7(G)
rewrite radical expressions that contain variables to equivalent forms

2A.7(H)
solve equations involving rational exponents.

exponential decay

Alg 1

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(C)
write exponential functions in the form f(x) = abx (where b is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.9(E)
write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

exponential function

Alg 1

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(C)
write exponential functions in the form f(x) = abx (where b is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.9(E)
write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(C)
rewrite exponential equations as their corresponding logarithmic equations and logarithmic equations as their corresponding exponential equations

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)

use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

exponential growth

Alg 1

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(C)
write exponential functions in the form f(x) = abx (where b is a rational number) to describe problems arising from mathematical and real-world situations, including growth and decay

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.9(E)
write, using technology, exponential functions that provide a reasonable fit to data and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

expression

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

Alg 2

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

exterior angle

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

face

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

fact family

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

factor

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

5.3(D)
represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models

5.3(E)
solve for products of decimals to the hundredths, including situations involving money, using

strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

5.3(I)
represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

A.11(A)
simplify numerical radical expressions involving square roots.

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 2

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

factor pairs

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

fee

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

financial asset

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

financial records

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

fives

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

fixed expense

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

flat surface

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

fourths

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

fourths/quarters

1st

1.6(G)
partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.

1.6(H)
identify examples and non-examples of halves and fourths.

fraction

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

fractional parts

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

frequency table

2nd

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

function

8th

8.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.5(F)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b ot = 0$

8.5(H)
identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.

8.5(G)
identify functions using sets of ordered pairs, tables, mappings, and graphs

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(D)
write and solve equations involving direct variation

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(A)

solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

A.12(E)
write a formula for the nth term of arithmetic and geometric sequences, given the value of several of their terms.

Alg 2

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and

d

2A.4(G)
identify extraneous solutions of square root equations.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

function notation

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

gift

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

given/earned

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

goods

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

grant

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

graph title

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

greater than (>)

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function $f(x) = x$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(x - c)$, and $f(bx)$ for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

greater than/more than

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function $f(x) = x$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(x - c)$, and $f(bx)$ for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

greater than or equal to (>=)

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

greatest common factor

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

greatest to least

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

4th

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

8th

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

gross income

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

half past

No TEKS assignments found for this visual.

halfway

3rd

3.2(C)
represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.

halves

No TEKS assignments found for this visual.

height

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)

apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

height of prism/pyramid

7th

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

hexagon

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

hierarchy of quadrilaterals

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

histogram

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

horizontal

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

horizontal shift

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

horizontal stretch/compression

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for

specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

hour

1st

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.7(C)
determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

human capital

3rd

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

hundred millions place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

hundreds place

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

hundred thousands place

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

hundredths place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

hypotenuse

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

identity property

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

improper fraction

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

income

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

7.13(A)
use data from a random sample to make inferences about a population

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

income tax

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

independent event

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

independent quantity

6th

6.4(A)
solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

6.6(A)
apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

6.6(B)
calculate unit rates from rates in mathematical and real-world problems.

6.6(C)
convert within and between measurement systems, including the use of proportions and the use of unit rates.

7th

7.7(A)
represent solutions for one-variable, two-step inequalities on number lines

inequality

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and

represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

Alg 2

2A.6(D)
formulate absolute value linear equations

2A.6(E)
solve absolute value linear equations

2A.6(F)
solve absolute value linear inequalities

2A.3(E)
formulate systems of at least two linear inequalities in two variables

2A.3(F)
solve systems of two or more linear inequalities in two variables.

2A.3(G)
determine possible solutions in the solution set of systems of two or more linear inequalities in two variables.

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

inner scale

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

input-output table

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

4th

4.5(B)
represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

input/output table

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

4th

4.5(B)
represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

integer

6th

6.2(A)
classify sets and subsets using a visual representation such as a Venn diagram or a hierarchy to describe relationships between sets of rational numbers

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.2(A)
extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

interest

3rd

3.9(D)
explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

interior angle

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

interquartile range (IQR)

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

intersecting lines

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

inverse property

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

irrational number

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

isosceles triangle

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

job

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

joining

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

1.8(C)
draw conclusions and generate and answer questions using information from picture and bar-type graphs.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to

1,000 using pictorial models, number lines, and equations

3.8(B)
solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

label

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

labor

3rd

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

lateral surface area

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

8th

8.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

layers

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

least/most

4th

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

5th

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

least to greatest

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

4th

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

8th

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

leg

8th

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

legend (key)

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

lender

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

lending

2nd

2.11(D)
identify examples of borrowing and distinguish between responsible and irresponsible borrowing

2.11(E)
identify examples of lending and use concepts of benefits and costs to evaluate lending decisions.

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

length

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

1st

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

3rd

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

3.7(B)
determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

4.8(C)
solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

less likely

7th

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

less than (<)

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)

solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

less than/fewer than

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

2nd

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(D)
compare and order whole numbers up to 100,000 and represent comparisons using the symbols >,

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.2(C)
compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols >,

4.2(F)
compare and order decimals using concrete and visual models to the hundredths

5th

5.2(B)
compare and order two decimals to thousandths and represent comparisons using the symbols ,

6th

6.2(C)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers as proportional relationships

6.2(D)
generate equivalent forms of fractions, decimals, and percents using real-world problems as proportional relationships, including problems that involve money

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

less than or equal to (<=)

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

liability

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

like terms

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

linear equation

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.2(I)
write systems of two linear equations given a table of values, a graph, and a verbal description.

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(F)
graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems

A.3(G)
graph the solution set of linear inequalities in two variables on the coordinate plane

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(A)
solve linear equations in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides

A.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$

and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

Alg 2

2A.3(A)

formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic

2A.3(C)

solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation

2A.3(D)

determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables

linear function/relationship

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

linear inequality

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

Alg 2

2A.3(E)
formulate systems of at least two linear inequalities in two variables

2A.3(F)
solve systems of two or more linear inequalities in two variables.

2A.3(G)
determine possible solutions in the solution set of systems of two or more linear inequalities in two variables.

line graph

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

line of symmetry

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

line segment

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

little more/little less

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

1st

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

2.9(F)
use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)
round decimals to tenths or hundredths.

loan

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

8th

8.12(A)
identify functions using sets of ordered pairs and mappings

8.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

8.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

8.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

8.12(G)
estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

loan/lending

2nd

2.11(D)
identify examples of borrowing and distinguish between responsible and irresponsible borrowing

2.11(E)
identify examples of lending and use concepts of benefits and costs to evaluate lending decisions.

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(D)
solve problems using data represented in bar graphs, dot plots, and circle graphs, including part-to-whole and part-to-part comparisons and equivalents

6.14(E)
compare two groups of numeric data using comparative dot plots or box plots by comparing their shapes, centers, and spreads.

6.14(F)
summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution.

longer than/shorter than

No TEKS assignments found for this visual.

make 10

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

mass

4th

4.8(C)

solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.

maximum

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

maximum/at most

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

mean

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

mean absolute deviation

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

measures of center

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

measures of spread

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

measuring tape

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

median

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

meter stick

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

metric (capacity)

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

metric (length)

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

metric (weight)

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

metric capacity

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

metric length

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

metric weight

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

4th

4.8(A)
identify relative sizes of measurement units within the customary and metric systems

4.8(B)
convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.

5th

5.7(A)
Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving measurement. The student is expected to solve problems by calculating conversions within a measurement system, customary or metric.

6th

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

midpoint

8th

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

millions

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

minimum

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)

use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

minimum/at least

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula $V = Bh$ of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

minute

1st

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.7(C)
determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

mixed number

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

mode

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

money

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

money market fund

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

monomial

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

more likely

7th

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

more than/fewer than

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

K.8(C)
draw conclusions from real-object and picture graphs.

more than/less than

3rd

3.8(B)
solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

5th

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

multiplication

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(K)
solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.

3.5(B)
represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

multiplicative pattern

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

multiplicative pattern/relationship

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

6th

6.4(A)
solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models.

6.6(A)
apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates

6.6(B)
calculate unit rates from rates in mathematical and real-world problems.

6.6(C)
convert within and between measurement systems, including the use of proportions and the use of unit rates.

nearest 1,000

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

nearest 10

3rd

3.2(C)
represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

nearest 100

3rd

3.2(C)
represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

needs

No TEKS assignments found for this visual.

negative linear association

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

net

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

net income

5th

5.10(C)
identify the advantages and disadvantages of different methods of payment, including check, credit card, debit card, and electronic payments

5.10(D)
develop a system for keeping and using financial records

5.10(E)
describe actions that might be taken to balance a budget when expenses exceed income.

5.10(F)
balance a simple budget.

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

net worth

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

net worth statement

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

nickel

K

K.4(A)
Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

1st

1.4(A)
identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them

1.4(B)
write a number with the cent symbol to describe the value of a coin.

1.4(C)
use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

2nd

2.5(A)
determine the value of a collection of coins up to one dollar.

2.5(B)
use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

3rd

3.4(C)
determine the value of a collection of coins and bills

no association

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

non-linear function/relationship

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

non-proportional

7th

7.7(A)
represent solutions for one-variable, two-step inequalities on number lines

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

non-proportional situation/relationship

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

no real solution

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

numbers

K

K.2(A)
count forward and backward to at least 20 with and without objects

K.2(E)
generate a set using concrete and pictorial models that represents a number that is more than, less than, and equal to a given number up to 20

K.2(F)
generate a number that is one more than or one less than another number up to at least 20

K.2(G)
compare sets of objects up to at least 20 in each set using comparative language

K.2(H)
use comparative language to describe two numbers up to 20 presented as written numerals.

numerator

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

3.3(C)
explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

3.3(D)
compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$

3.6(E)
decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

4th

4.3(A)
represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b>0$, including when $a>b$

4.3(B)
decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

4.3(D)
compare two fractions with different numerators and different denominators and represent the comparison using the symbols >, =, or

4.3(E)
represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations

4.3(F)
evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 2

2A.7(G)
rewrite radical expressions that contain variables to equivalent forms

2A.7(H)
solve equations involving rational exponents.

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

numerical pattern

4th

4.5(B)
represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

obtuse angle

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

occupation

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

octagon

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

odd

2nd

2.6(A)
model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

2.6(B)
model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.

2.7(A)
determine whether a number up to 40 is even or odd using pairings of objects to represent the number

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

ones

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

ones place

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

one tenth

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

open number line

1st

1.2(D)
generate a number that is greater than or less than a given whole number up to 120

1.2(E)
use place value to compare whole numbers up to 120 using comparative language

1.2(F)
order whole numbers up to 120 using place value and open number lines.

1.2(G)
represent the comparison of two numbers to 100 using the symbols >,

1.5(C)
use relationships to determine the number that is 10 more and 10 less than a given number up to 120

opposite angle

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

opposite number

6th

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

opposite reciprocal

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

ordered pair/coordinate

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

Alg 2

2A.3(A)
formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic

2A.3(B)
solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution

2A.3(C)
solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation

2A.3(D)
determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables

ordered pair/coordinate/number pair

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

Alg 2

2A.3(A)
formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic

2A.3(B)
solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution

2A.3(C)
solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation

2A.3(D)
determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables

order of operations

5th

5.4(E)
describe the meaning of parentheses and brackets in a numeric expression

5.4(F)
simplify numerical expressions that do not involve exponents, including up to two levels of grouping

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

orientation

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

origin

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

origin (0, 0)

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

outcome

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

outer scale

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

outlier

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

p.m.

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

parabola

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

parallel

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.2(I)
write systems of two linear equations given a table of values, a graph, and a verbal description.

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(F)
graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems

A.3(G)
graph the solution set of linear inequalities in two variables on the coordinate plane

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.4(A)
distinguish between undefined terms, definitions, postulates, conjectures, and theorems

G.4(B)
identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse

G.4(C)
verify that a conjecture is false using a counterexample.

G.4(D)
compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

parallel lines

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.2(I)
write systems of two linear equations given a table of values, a graph, and a verbal description.

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(F)
graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems

A.3(G)
graph the solution set of linear inequalities in two variables on the coordinate plane

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.4(A)
distinguish between undefined terms, definitions, postulates, conjectures, and theorems

G.4(B)
identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse

G.4(C)
verify that a conjecture is false using a counterexample.

G.4(D)
compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

parallelogram

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

parent function

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

parentheses

5th

5.4(E)
describe the meaning of parentheses and brackets in a numeric expression

5.4(F)
simplify numerical expressions that do not involve exponents, including up to two levels of grouping

part

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

1st

1.6(G)
partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.

1.6(H)
identify examples and non-examples of halves and fourths.

part-to-part comparison

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

part-to-whole comparison

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

partial product

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

partial products

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

partial quotient

4th

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

part of a whole

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

payroll tax

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

penny

K

K.4(A)
Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

1st

1.4(A)
identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them

1.4(B)
write a number with the cent symbol to describe the value of a coin.

1.4(C)
use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

2nd

2.5(A)
determine the value of a collection of coins up to one dollar.

2.5(B)
use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

3rd

3.4(C)
determine the value of a collection of coins and bills

pentagon

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

per

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

percent (%)

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

percent/percentage

6th

6.4(E)
represent ratios and percents with concrete models, fractions, and decimals

6.4(F)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers

6.4(G)
generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.

6.5(B)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(C)
represent ratios and percents with concrete models, fractions, and decimals.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

percent bar graph

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

percent decrease

7th

7.4(D)
solve real-world problems comparing how interest rate and loan length affect the cost of credit

percent increase

7th

7.4(D)
solve real-world problems comparing how interest rate and loan length affect the cost of credit

percent of values

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

perfect square

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

A.11(A)
simplify numerical radical expressions involving square roots.

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

perfect square trinomial

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

perimeter

3rd

3.7(B)
determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l \times w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l \times w \times h$, $V = s \times s \times s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

perimeter of the Base

8th

8.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

perpendicular

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)

show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(B)

construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)

use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)

verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

perpendicular lines

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

per unit rate

7th

7.7(A)
represent solutions for one-variable, two-step inequalities on number lines

pi (?)

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.5(B)
generalize the critical attributes of similarity, including ratios within and between similar shapes

7.8(C)
identify examples of proportional and non-proportional relationships that arise from mathematical and real-world problems.

7.9(B)
determine the circumference and area of circles

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

8.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

pictograph

2nd

2.10(A)
explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category

2.10(B)
organize a collection of data with up to four categories using pictographs and bar graphs with intervals of one or more

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

picture graph

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

1.8(C)
draw conclusions and generate and answer questions using information from picture and bar-type graphs.

place value

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

2.2(C)
generate a number that is greater than or less than a given whole number up to 1,200

2.2(D)
use place value to compare and order whole numbers up to 1,200 using comparative language, numbers, and symbols (>,

2.2(E)
locate the position of a given whole number on an open number line.

2.2(F)
name the whole number that corresponds to a specific point on a number line.

2.7(B)
use an understanding of place value to determine the number that is 10 or 100 more or less than a given number up to 1,200.

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

planned spending

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

point

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one

end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)

derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)

determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)

show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(B)

construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)

use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)

verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

point-slope form

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

point of intersection

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

polygon

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

polynomial

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

Alg 2

2A.7(B)
add, subtract, and multiply polynomials

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(D)
determine the linear factors of a polynomial function of degree three and of degree four using algebraic methods

2A.7(E)
determine linear and quadratic factors of a polynomial expression of degree three and of degree four, including factoring the sum and difference of two cubes and factoring by grouping

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

position

4th

4.5(B)
represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence

positive linear association

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

prime factorization

6th

6.7(A)
distinguish between expressions and equations verbally, numerically, and algebraically

6.7(B)
determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations.

6.7(C)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

6.7(D)
generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties.

prime notation

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

prime number

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

principal

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

8th

8.12(A)
identify functions using sets of ordered pairs and mappings

8.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

8.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

8.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

8.12(G)
estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

prism

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

probability

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

probability experiment

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

producer

2nd

2.11(F)
differentiate between producers and consumers and calculate the cost to produce a simple item.

product

2nd

2.11(F)
differentiate between producers and consumers and calculate the cost to produce a simple item.

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

4th

4.4(B)
determine products of a number and 10 or 100 using properties of operations and place value understandings

4.4(C)
represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15

4.4(D)
use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

5.3(D)
represent multiplication of decimals with products to the hundredths using objects and pictorial

models, including area models

5.3(E)
solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers

5.3(I)
represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 2

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

profit

4th

4.10(B)
calculate profit in a given situation

property tax

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

proportion

6th

6.4(E)
represent ratios and percents with concrete models, fractions, and decimals

6.4(F)
represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers

6.4(G)
generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money.

6.5(B)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(C)
represent ratios and percents with concrete models, fractions, and decimals.

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

7.4(D)
solve real-world problems comparing how interest rate and loan length affect the cost of credit

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

proportional

7th

7.7(A)
represent solutions for one-variable, two-step inequalities on number lines

Geom

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

proportional situation

No TEKS assignments found for this visual.

proportional situation/relationship

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

protractor

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

quadrant

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

quadratic equation

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

quadratic formula

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

quadratic function

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

quadrilateral

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

quarter

K

K.4(A)

Students develop number and operations through several fundamental concepts. Students know number names and the counting sequence. Counting and cardinality lay a solid foundation for number. Students apply the principles of counting to make the connection between numbers and quantities.

1st

1.4(A)

identify U.S. coins, including pennies, nickels, dimes, and quarters, by value and describe the relationships among them

1.4(B)

write a number with the cent symbol to describe the value of a coin.

1.4(C)

use relationships to count by twos, fives, and tens to determine the value of a collection of pennies, nickels, and/or dimes.

2nd

2.5(A)

determine the value of a collection of coins up to one dollar.

2.5(B)

use the cent symbol, dollar sign, and the decimal point to name the value of a collection of coins.

3rd

3.4(C)

determine the value of a collection of coins and bills

quarter "˜til

2nd

2.9(G)

read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.7(C)

determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

quarter after/past

2nd

2.9(G)

read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.7(C)

determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

quarter circle

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

quarter to/'til

2nd

2.9(G)
read and write time to the nearest one-minute increment using analog and digital clocks and distinguish between a.m. and p.m.

3rd

3.7(C)
determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

quartile

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

quotient

3rd

3.4(H)
determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

3.4(I)
determine if a number is even or odd using divisibility rules

3.4(J)
determine a quotient using the relationship between multiplication and division.

4th

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

5th

5.3(B)
multiply with fluency a three-digit number by a two-digit number using the standard algorithm

5.3(C)
solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

5.3(F)
represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models

5.3(G)
solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms, including the standard algorithm

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

Alg 2

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

radical

Alg 1

A.11(A)
simplify numerical radical expressions involving square roots.

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

2A.7(G)
rewrite radical expressions that contain variables to equivalent forms

2A.7(H)
solve equations involving rational exponents.

radius

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.5(B)
generalize the critical attributes of similarity, including ratios within and between similar shapes

7.8(C)
identify examples of proportional and non-proportional relationships that arise from mathematical and real-world problems.

7.9(B)
determine the circumference and area of circles

8th

8.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and

secants, to solve non-contextual problems

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

random/randomly

7th

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

random sampling

7th

7.6(G)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.12(B)
differentiate between transformations that preserve congruence and those that do not

8th

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

range

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

rate

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.4(D)
solve real-world problems comparing how interest rate and loan length affect the cost of credit

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

rate of change

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

8th

8.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.5(F)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b
ot = 0$

8.5(H)
identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

ratio

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

7.4(D)
solve real-world problems comparing how interest rate and loan length affect the cost of credit

7.5(B)
generalize the critical attributes of similarity, including ratios within and between similar shapes

7.8(C)
identify examples of proportional and non-proportional relationships that arise from mathematical and real-world problems.

7.9(B)
determine the circumference and area of circles

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

rational number

6th

6.2(A)
classify sets and subsets using a visual representation such as a Venn diagram or a hierarchy to describe relationships between sets of rational numbers

7th

7.2(A)
extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

ray

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

real number

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

real object graph

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

K.8(C)
draw conclusions from real-object and picture graphs.

rebate

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

reciprocal

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

rectangle

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

rectangular prism

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)

determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

rectangular pyramid

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

reflection

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$,

$f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)
determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

relative frequency table

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

remainder

4th

4.4(E)
represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations

4.4(F)
use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor

4.4(H)
solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.

repeated addition

2nd

2.6(A)
model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

2.6(B)
model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.

2.7(A)
determine whether a number up to 40 is even or odd using pairings of objects to represent the number

repeated subtraction

2nd

2.6(A)
model, create, and describe contextual multiplication situations in which equivalent sets of concrete objects are joined.

2.6(B)
model, create, and describe contextual division situations in which a set of concrete objects is separated into equivalent sets.

2.7(A)
determine whether a number up to 40 is even or odd using pairings of objects to represent the number

retail price

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

retirement

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

rhombus

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides,

opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

right angle

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

right triangle

8th

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

rotation

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

round/rounding

3rd

3.2(C)
represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.

3.4(B)
round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

4th

4.2(D)
round whole numbers to a given place value through the hundred thousands place

4.4(G)
round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.

5th

5.3(A)
estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division

5.2(C)
round decimals to tenths or hundredths.

row

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

rule

3rd

3.5(E)
represent real-world relationships using number pairs in a table and verbal descriptions.

4th

4.5(B)
represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

ruler

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

sales tax

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

sample space

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

saving

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

2nd

2.11(A)
calculate how money saved can accumulate into a larger amount over time

2.11(B)
explain that saving is an alternative to spending

2.11(C)
distinguish between a deposit and a withdrawal

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

savings bond

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

scaled interval

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

scale factor

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

scalene triangle

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

scarcity of resources

3rd

3.9(A)
explain the connection between human capital/labor and income

3.9(B)
describe the relationship between the availability or scarcity of resources and how that impacts cost

scatterplot

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

8th

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

scatter plot

5th

5.9(A)
represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots

5.9(B)
represent discrete paired data on a scatterplot.

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

8th

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

scholarship

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

scientific notation

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

selling price

4th

4.10(B)

calculate profit in a given situation

semicircle

7th

7.9(C)

determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)

solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

separating

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

1.8(C)
draw conclusions and generate and answer questions using information from picture and bar-type graphs.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

2.10(C)
write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one.

2.10(D)
draw conclusions and make predictions from information in a graph.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to

1,000 using pictorial models, number lines, and equations

3.8(B)
solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(B)
solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.

services

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

shape/figure

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

shape of data distribution

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

side

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.7(B)
determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

similar figures/shapes

7th

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

similar right triangle

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

similar shape

7th

7.5(A)
describe ? as the ratio of the circumference of a circle to its diameter

7.5(C)
solve mathematical and real-world problems involving similar shape and scale drawings

8th

8.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

8.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

8.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

8.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

Geom

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
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G.8(A)
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G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

simple event

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

simple interest

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

8th

8.12(A)
identify functions using sets of ordered pairs and mappings

8.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

8.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

8.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

8.12(G)
estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

simplified form

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.3(K)
add and subtract positive rational numbers fluently.

5.4(A)
identify prime and composite numbers

6th

6.2(E)
use equivalent fractions, decimals, and percents to show equal parts of the same whole as proportional relationships

6.3(A)
recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values

6.3(B)
determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one

6.3(E)
add, subtract, multiply, and divide integers fluently

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

sixths

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

size of the whole

3rd

3.3(H)
compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.

skew

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

skill

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

slope

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

8.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.5(F)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b
ot = 0$

8.5(H)
identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by

af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

Alg 2

2A.3(E)
formulate systems of at least two linear inequalities in two variables

2A.3(F)
solve systems of two or more linear inequalities in two variables.

2A.3(G)
determine possible solutions in the solution set of systems of two or more linear inequalities in two variables.

slope-intercept form

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

solid

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

solution

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.2(I)
write systems of two linear equations given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(F)
graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems

A.3(G)
graph the solution set of linear inequalities in two variables on the coordinate plane

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

A.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

Alg 2

2A.6(D)
formulate absolute value linear equations

2A.6(E)
solve absolute value linear equations

2A.6(F)
solve absolute value linear inequalities

2A.3(A)
formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic

2A.3(B)
solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential

models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.3(C)
solve, algebraically, systems of two equations in two variables consisting of a linear equation and a quadratic equation

2A.3(D)
determine the reasonableness of solutions to systems of a linear equation and a quadratic equation in two variables

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

2A.7(G)
rewrite radical expressions that contain variables to equivalent forms

2A.7(H)
solve equations involving rational exponents.

2A.6(H)
formulate rational equations that model real-world situations

2A.6(I)
solve rational equations that have real solutions

2A.6(J)
determine the reasonableness of a solution to a rational equation

2A.6(L)
formulate and solve equations involving inverse variation.

2A.7(C)
determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two

2A.7(F)
determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two

solution set

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

Alg 1

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

Alg 2

2A.3(E)
formulate systems of at least two linear inequalities in two variables

2A.3(F)
solve systems of two or more linear inequalities in two variables.

2A.3(G)
determine possible solutions in the solution set of systems of two or more linear inequalities in two variables.

spend/spending

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

2nd

2.11(A)
calculate how money saved can accumulate into a larger amount over time

2.11(B)
explain that saving is an alternative to spending

2.11(C)
distinguish between a deposit and a withdrawal

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

spending

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

2nd

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identify decisions involving income, spending, saving, credit, and charitable giving.

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

sphere

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

spread

6th

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

square

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

5th

5.5(A)

Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

7th

7.9(C)

determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)

solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

Geom

G.5(A)

investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)

verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)

prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)

apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

square centimeter

3rd

3.6(C)

determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)

decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

square feet

3rd

3.6(C)

determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)

decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

square inch

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

square millimeter

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

square pyramid

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

G.7(A)
apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles.

G.7(B)
apply the Angle-Angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems.

G.8(A)
prove theorems about similar triangles, including the Triangle Proportionality theorem, and apply these theorems to solve problems.

G.9(A)
determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems.

G.9(B)
apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean theorem, including Pythagorean triples, to solve problems.

square root

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.11(A)
simplify numerical radical expressions involving square roots.

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

square root (?)

8th

8.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

8.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

8.2(D)
write and solve equations involving direct variation

8.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

8.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

8.7(D)
determine the distance between two points on a coordinate plane using the Pythagorean Theorem.

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.11(A)
simplify numerical radical expressions involving square roots.

A.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(G)
identify extraneous solutions of square root equations.

square unit

2nd

2.9(F)
use concrete models of square units to find the area of a rectangle by covering it with no gaps or overlaps, counting to find the total number of square units, and describing the measurement using a number and the unit.

3rd

3.4(D)
determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

3.4(E)
represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

3.4(F)
recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts

3.4(G)
use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

3.5(C)
describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

3.5(D)
determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

square yard

3rd

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

standard form

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

standard form (linear)

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

standard form (quadratic)

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

standard unit of length

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

steep

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

stem-and-leaf plot

3rd

3.8(A)
summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.

4th

4.9(A)
represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.

5th

0
Description unavailable right now.

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

straight angle

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

strength of correlation

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

student loan

6th

6.14(G)

explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)

compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

subtraction

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

sum

K

K.3(A)
model the action of joining to represent addition and the action of separating to represent subtraction

K.3(B)
solve word problems using objects and drawings to find sums up to 10 and differences within 10.

K.3(C)
explain the strategies used to solve problems involving adding and subtracting within 10 using spoken words, concrete and pictorial models, and number sentences.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

4th

4.4(A)
add and subtract whole numbers and decimals to the hundredths place using the standard algorithm

4.3(E)
represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations

4.3(F)
evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, 1/4, 1/2, 3/4, and 1, referring to the same whole.

5th

5.3(K)
add and subtract positive rational numbers fluently.

5.3(H)
represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations

5.4(A)
identify prime and composite numbers

5.9(C)
solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot.

6th

6.2(B)
identify a number, its opposite, and its absolute value

6.3(C)
extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ? 0

6.3(D)
represent integer operations with concrete models and connect the actions with the models to standardized algorithms

7th

7.3(A)
add, subtract, multiply, and divide rational numbers fluently.

7.3(B)
apply and extend previous understandings of operations to solve problems using addition, subtraction, multiplication, and division of rational numbers.

supplementary angle

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

supplementary angles

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

symmetrical

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

symmetry/symmetrical

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.12(B)
determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles where dimensions are positive rational numbers

6.12(C)
solve problems involving the volume of right rectangular prisms and triangular prisms.

6.12(D)
write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships.

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

7th

7.12(A)
generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane

7.12(C)
explain the effect of translations, reflections over the x- or y-axis, and rotations limited to 90°, 180°, 270°, and 360° as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

system of equations

Alg 1

A.2(I)
write systems of two linear equations given a table of values, a graph, and a verbal description.

A.3(F)
graph linear functions on the coordinate plane and identify key features, including x-intercept, y-intercept, zeros, and slope, in mathematical and real-world problems

A.3(G)
graph the solution set of linear inequalities in two variables on the coordinate plane

A.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

t-chart

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

table

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

tally mark

K

K.8(A)
collect, sort, and organize data into two or three categories

K.8(B)
use data to create real-object and picture graphs.

K.8(C)
draw conclusions from real-object and picture graphs.

1st

1.8(A)
collect, sort, and organize data in up to three categories using models/representations such as tally marks or T-charts

1.8(B)
use data to create picture and bar-type graphs.

tax

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

ten millions place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

tens

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

tens place

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

K

K.2(B)
read, write, and represent whole numbers from 0 to at least 20 with and without objects or pictures

K.2(C)
count a set of objects up to at least 20 and demonstrate that the last number said tells the number of objects in the set regardless of their arrangement or order

K.2(D)
recognize instantly the quantity of a small group of objects in organized and random arrangements

K.2(I)
compose and decompose numbers up to 10 with objects and pictures.

K.5(A)
Algebraic reasoning. The student applies mathematical process standards to identify the pattern in the number word list. The student is expected to recite numbers up to at least 100 by ones and tens beginning with any given number.

ten thousands place

3rd

3.2(A)
compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

3.2(B)
describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

tenths place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

ten times

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

term

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

theoretical probability

7th

7.6(E)
find the probabilities of a simple event and its complement and describe the relationship between the two

7.6(I)
determine experimental and theoretical probabilities related to simple and compound events using data and sample spaces.

7.6(C)
make predictions and determine solutions using experimental data for simple and compound events

7.6(D)
make predictions and determine solutions using theoretical probability for simple and compound events

7.6(F)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

7.6(H)
solve problems using qualitative and quantitative predictions and comparisons from simple experiments.

Geom

G.13(B)
determine probabilities based on area to solve contextual problems

G.13(C)
identify whether two events are independent and compute the probability of the two events occurring together with or without replacement

G.13(D)
apply conditional probability in contextual problems.

G.13(E)
apply independence in contextual problems.

thirds

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

thousands

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

thousandths place

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

5th

5.2(A)
represent the value of the digit in decimals through the thousandths using expanded notation and numerals

three-dimensional

K

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

time

1st

1.7(E)
tell time to the hour and half hour using analog and digital clocks.

8th

8.12(A)
identify functions using sets of ordered pairs and mappings

8.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

8.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

8.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

8.12(G)
estimate the cost of a two-year and four-year college education, including family contribution, and devise a periodic savings plan for accumulating the money needed to contribute to the total cost of attendance for at least the first year of college.

total surface area

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

8th

8.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

Geom

G.10(A)
identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes.

G.11(C)
apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

G.11(D)
apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.

to the right

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

transfer

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

transformation

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$,

$f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)

determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

translation

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.3(A)
describe and perform transformations of figures in a plane using coordinate notation

G.3(B)
determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane

G.3(C)
identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane.

G.3(D)
identify and distinguish between reflectional and rotational symmetry in a plane figure.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

Alg 2

2A.2(A)

graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for specific positive and negative real values of a, c, and d

2A.5(B)
formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)
solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)
determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)
analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and

d

2A.6(K)

determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

transversal

8th

8.8(D)

use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.5(A)

investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)

verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)

prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)

apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

trapezoid

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

5th

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)

apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

tree diagram

7th

7.6(A)
represent sample spaces for simple and compound events using lists and tree diagrams

7.6(B)
select and use different simulations to represent simple and compound events with and without technology

trend line

8th

8.5(C)
solve systems of two linear equations with two variables for mathematical and real-world problems.

8.5(D)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.11(A)
simplify numerical radical expressions involving square roots.

8.11(B)
simplify numeric and algebraic expressions using the laws of exponents, including integral and rational exponents.

triangle

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or

inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

Geom

G.4(A)
distinguish between undefined terms, definitions, postulates, conjectures, and theorems

G.4(B)
identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse

G.4(C)
verify that a conjecture is false using a counterexample.

G.4(D)
compare geometric relationships between Euclidean and spherical geometries, including parallel lines and the sum of the angles in a triangle.

G.5(B)
construct congruent segments, congruent angles, a segment bisector, an angle bisector, perpendicular lines, the perpendicular bisector of a line segment, and a line parallel to a given line through a point not on a line using a compass and a straightedge

G.5(C)
use the constructions of congruent segments, congruent angles, angle bisectors, and perpendicular bisectors to make conjectures about geometric relationships.

G.5(D)
verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems.

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(D)
verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems.

G.8(B)
identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including the geometric mean, to solve problems.

G.6(B)
prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions

G.6(C)
apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of

measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

triangular prism

1st

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

triangular pyramid

7th

7.9(C)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles.

7.9(D)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net.

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

trinomial

Alg 1

A.10(A)
add and subtract polynomials of degree one and degree two

A.10(B)
multiply polynomials of degree one and degree two

A.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

A.10(D)
rewrite polynomial expressions of degree one and degree two in equivalent forms using the distributive property

A.10(E)
factor, if possible, trinomials with real factors in the form ax2 + bx + c, including perfect square trinomials of degree two.

A.10(F)
decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial.

two-dimensional

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

3rd

3.6(A)
classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

twos

1st

1.3(A)
use concrete and pictorial models to determine the sum of a multiple of 10 and a one-digit number in problems up to 99

1.3(C)
compose 10 with two or more addends with and without concrete objects

1.3(D)
apply basic fact strategies to add and subtract within 20, including making 10 and decomposing a number leading to a 10

1.3(E)
explain strategies used to solve addition and subtraction problems up to 20 using spoken words, objects, pictorial models, and number sentences.

1.5(B)
skip count by twos, fives, and tens to determine the total number of objects up to 120 in a set

1.5(G)
apply properties of operations to add and subtract two or three numbers.

undefined

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

unit fraction

3rd

3.3(C)
explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

3.3(D)
compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$

3.6(E)
decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.

4th

4.3(A)
represent a fraction a/b as a sum of fractions $1/b$, where a and b are whole numbers and $b>0$, including when $a>b$

4.3(B)
decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations

5th

5.3(J)
represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 ÷ 7$ and $7 ÷ 1/3$ using objects and pictorial models, including area models

5.3(L)
divide whole numbers by unit fractions and unit fractions by whole numbers.

unit of measure

1st

1.7(A)
use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement

1.7(B)
illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other

1.7(C)
measure the same object/distance with units of two different lengths and describe how and why the measurements differ

1.7(D)
describe a length to the nearest whole unit using a number and a unit.

Geom

G.10(B)
determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.

G.11(A)
apply the formula for the area of regular polygons to solve problems using appropriate units of measure

G.11(B)
determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure

G.12(B)
apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems

G.12(C)
apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems

G.12(D)
describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle.

unit rate

6th

6.4(B)
calculate the sales tax for a given purchase and calculate income tax for earned wages.

6.4(C)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

6.4(D)
give examples of rates as the comparison by division of two quantities having different attributes, including rates as quotients

6.4(H)
convert units within a measurement system, including the use of proportions and unit rates.

6.5(A)
give examples of ratios as multiplicative comparisons of two quantities describing the same attribute

7th

7.4(A)
solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems

7.4(B)
calculate and compare simple interest and compound interest earnings

7.4(C)
analyze and compare monetary incentives, including sales, rebates, and coupons

7.4(E)
calculate the total cost of repaying a loan, including credit cards and easy access loans, under various rates of interest and over different periods using an online calculator

8th

8.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

8.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

unknown quantity/variable

1st

1.3(B)
use objects and pictorial models to solve word problems involving joining, separating, and comparing sets within 20 and unknowns as any one of the terms in the problem such as 2 + 4 = [ ]; 3 + [ ] = 7; and 5 = [ ] - 3

1.3(F)
generate and solve problem situations when given a number sentence involving addition or subtraction of numbers within 20.

1.5(D)
represent word problems involving addition and subtraction of whole numbers up to 20 using concrete and pictorial models and number sentences

1.5(E)
understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s)

1.5(F)
determine the unknown whole number in an addition or subtraction equation when the unknown may be any one of the three or four terms in the equation.

2nd

2.4(A)
recall basic facts to add and subtract within 20 with automaticity

2.4(B)
add up to four two-digit numbers and subtract two-digit numbers using mental strategies and algorithms based on knowledge of place value and properties of operations

2.4(C)
solve one-step and multi-step word problems involving addition and subtraction within 1,000 using a variety of strategies based on place value, including algorithms.

2.4(D)
generate and solve problem situations for a given mathematical number sentence involving addition and subtraction of whole numbers within 1,000.

2.7(C)
represent and solve addition and subtraction word problems where unknowns may be any one of the terms in the problem.

3rd

3.4(A)
solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

3.5(A)
represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

4th

4.6(A)
identify points, lines, line segments, rays, angles, and perpendicular and parallel lines

4.6(B)
identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure

4.6(C)
apply knowledge of right angles to identify acute, right, and obtuse triangles.

4.6(D)
classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size.

5th

5.4(B)
represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity

unplanned spending

3rd

3.9(C)
identify the costs and benefits of planned and unplanned spending decisions

3.9(E)
list reasons to save and explain the benefit of a savings plan, including for college.

3.9(F)
identify decisions involving income, spending, saving, credit, and charitable giving.

up from

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

value

4th

4.2(A)
interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left

4.2(B)
represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals

4.2(E)
represent decimals, including tenths and hundredths, using concrete and visual models and money

4.2(H)
determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

variability

6th

6.12(A)
extend previous knowledge of triangles and their properties to include the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle

6.13(A)
distinguish between situations that yield data with and without variability.

6.13(B)
represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots.

variable

4th

4.5(A)
represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity

6th

6.9(A)
identify independent and dependent quantities from tables and graphs

6.9(B)
write an equation that represents the relationship between independent and dependent quantities from a table

6.9(C)
represent a given situation using verbal descriptions, tables, graphs, and equations in the form y = kx or y = x + b.

6.10(A)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.

6.10(B)
determine if the given value(s) make(s) one-variable, one-step equations or inequalities true.

7th

7.10(B)
solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net

7.11(A)
determine the circumference and area of circles

7.11(B)
determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

8th

8.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

8.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

8.8(C)
model and solve one-variable equations with variables on both sides of the equal sign that represent mathematical and real-world problems using rational number coefficients and constants.

Alg 2

2A.3(A)
formulate systems of equations, including systems consisting of three linear equations in three variables and systems consisting of two equations, the first linear and the second quadratic

2A.3(B)
solve systems of three linear equations in three variables by using Gaussian elimination, technology with matrices, and substitution

variable expense

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

7th

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(C)
simulate generating random samples of the same size from a population with known characteristics to develop the notion of a random sample being representative of the population from which it was selected.

vertex

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

3rd

3.6(A)

classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex,

and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)

predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

vertex/vertices

K

K.6(A)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares as special rectangles

K.6(D)
identify attributes of two-dimensional shapes using informal and formal geometric language interchangeably

K.6(E)
classify and sort a variety of regular and irregular two- and three-dimensional figures regardless of orientation or size.

K.6(F)
create two-dimensional shapes using a variety of materials and drawings.

K.6(B)
identify three-dimensional solids, including cylinders, cones, spheres, and cubes, in the real world

K.6(C)
identify two-dimensional components of three-dimensional objects

1st

1.6(A)
classify and sort regular and irregular two-dimensional shapes based on attributes using informal geometric language

1.6(B)
distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape

1.6(C)
create two-dimensional figures, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons

1.6(D)
identify two-dimensional shapes, including circles, triangles, rectangles, and squares, as special rectangles, rhombuses, and hexagons and describe their attributes using formal geometric language

1.6(F)
compose two-dimensional shapes by joining two, three, or four figures to produce a target shape in more than one way if possible

1.6(E)
identify three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes), and triangular prisms, and describe their attributes using formal geometric language

2nd

2.8(A)
create two-dimensional shapes based on given attributes, including number of sides and vertices

2.8(C)
classify and sort polygons with 12 or fewer sides according to attributes, including identifying the number of sides and number of vertices

2.8(D)
compose two-dimensional shapes and three-dimensional solids with given properties or attributes.

2.8(E)
decompose two-dimensional shapes such as cutting out a square from a rectangle, dividing a shape in half, or partitioning a rectangle into identical triangles and identify the resulting geometric parts.

2.8(B)
classify and sort three-dimensional solids, including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language

3rd

3.6(A)

classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

3.6(B)
use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.5(A)
Geometry and measurement. The student applies mathematical process standards to classify two-dimensional figures by attributes and properties. The student is expected to classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties.

6th

6.8(A)
write one-variable, one- and two-step equations and inequalities to represent constraints or conditions within problems

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex,

and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

vertex form (of a quadratic function)

Alg 1

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

Alg 2

2A.4(A)
write the quadratic function given three specified points in the plane

2A.4(B)
write the equation of a parabola using given attributes, including vertex, focus, directrix, axis of symmetry, and direction of opening

2A.4(D)
transform a quadratic function $f(x) = ax^2+ bx + c$ to the form $f(x) = a(x - h)^2+ k$ to identify the different attributes of $f(x)$

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(H)
solve quadratic inequalities.

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.8(A)
analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)
use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)
predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

vertical

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

vertical angle

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11
Geometric expressions, equations, and relationships--applications of geometric concepts. The student applies mathematical process standards to solve geometric problems. The student is expected to:

(C)
Description unavailable right now.

8th

8.8(D)
use informal arguments to establish facts about the angle sum and exterior angle of triangles, the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Geom

G.5(A)
investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools

G.6(A)
verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems

G.6(E)
prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems.

G.12(A)
apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems

vertical shift

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

vertical stretch/compression

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Alg 2

2A.2(A)
graph the functions $f(x)=\sqrt{x}$, $f(x)=1/x$, $f(x)=x^3$, $f(x)= \sqrt[3]{x}$, $f(x)=b^x$, $f(x)=|x|$, and $f(x)=log_b (x)$ where b is 2, 10, and e, and, when applicable, analyze the key attributes such as domain, range, intercepts, symmetries, asymptotic behavior, and maximum and minimum given an interval

2A.6(C)
analyze the effect on the graphs of $f(x) = |x|$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.7(I)
write the domain and range of a function in interval notation, inequalities, and set notation.

2A.4(C)
determine the effect on the graph of $f(x) = \sqrt{x}$ when $f(x)$ is replaced by $af(x)$, $f(x) + d$, $f(bx)$, and $f(x - c)$ for specific positive and negative values of a, b, c, and d

2A.4(E)
formulate quadratic and square root equations using technology given a table of data

2A.4(F)
solve quadratic and square root equations

2A.4(G)
identify extraneous solutions of square root equations.

2A.2(B)
graph and write the inverse of a function using notation such as $f^{-1} (x)$

2A.2(C)
describe and analyze the relationship between a function and its inverse (quadratic and square root, logarithmic and exponential), including the restriction(s) on domain, which will restrict its range.

2A.2(D)
use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other.

2A.6(A)
analyze the effect on the graphs of $f(x) = x^3$ and $f(x) = \sqrt[3]{x}$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x - c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(B)
solve cube root equations that have real roots

2A.5(A)
determine the effects on the key attributes on the graphs of $f(x) = b^x$ and $f(x) = log_b (x)$ where b is 2, 10, and e when $f(x)$ is replaced by $af(x)$, $f(x) + d$, and $f(x - c)$ for

specific positive and negative real values of a, c, and d

2A.5(B)

formulate exponential and logarithmic equations that model real-world situations, including exponential relationships written in recursive notation

2A.5(D)

solve exponential equations of the form $y = ab^x$ where a is a nonzero real number and b is greater than zero and not equal to one and single logarithmic equations having real solutions.

2A.8(A)

analyze data to select the appropriate model from among linear, quadratic, and exponential models

2A.8(B)

use regression methods available through technology to write a linear function, a quadratic function, and an exponential function from a given set of data.

2A.8(C)

predict and make decisions and critical judgments from a given set of data using linear, quadratic, and exponential models.

2A.5(E)

determine the reasonableness of a solution to a logarithmic equation.

2A.6(G)

analyze the effect on the graphs of $f(x) = 1/x$ when $f(x)$ is replaced by $af(x)$, $f(bx)$, $f(x-c)$, and $f(x) + d$ for specific positive and negative real values of a, b, c, and d

2A.6(K)

determine the asymptotic restrictions on the domain of a rational function and represent domain and range using interval notation, inequalities, and set notation.

volume

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.6(A)

determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)

write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)

graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

volume/capacity

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

7th

7.10(A)
use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas

7.10(C)
describe the volume formula V = Bh of a cylinder in terms of its base area and its height

7.11(C)
use previous knowledge of surface area to make connections to the formulas for lateral and total surface area and determine solutions for problems involving rectangular prisms, triangular prisms, and cylinders

7.8(A)
determine the constant of proportionality (k = y/x) within mathematical and real-world problems

7.8(B)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form y = kx or y = mx + b, where b != 0.

7.9(A)
solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids

8th

8.6(A)

determine the domain and range of quadratic functions and represent the domain and range using inequalities

8.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

8.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

wages

5th

5.10(A)
define income tax, payroll tax, sales tax, and property tax

5.10(B)
explain the difference between gross income and net income

wants

K

K.9(A)
identify ways to earn income

K.9(B)
differentiate between money received as income and money received as gifts

K.9(C)
list simple skills required for jobs.

K.9(D)
distinguish between wants and needs and identify income as a source to meet one's wants and needs.

1st

1.9(A)
define money earned as income

1.9(B)
identify income as a means of obtaining goods and services, oftentimes making choices between wants and needs

1.9(C)
distinguish between spending and saving.

1.9(D)
consider charitable giving.

3rd

3.9(D)
explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

weight

K

K.7(A)
give an example of a measurable attribute of a given object, including length, capacity, and weight.

K.7(B)
compare two objects with a common measurable attribute to see which object has more of/less of the attribute and describe the difference.

3rd

3.7(D)
determine when it is appropriate to use measurements of liquid volume (capacity) or weight.

3.7(E)
determine liquid volume (capacity) or weight using appropriate units and tools.

whole

1st

1.6(G)
partition two-dimensional figures into two and four fair shares or equal parts and describe the parts using words.

1.6(H)
identify examples and non-examples of halves and fourths.

2nd

2.3(A)
partition objects into equal parts and name the parts, including halves, fourths, and eighths, using words

2.3(B)
explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part

2.3(C)
use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole.

2.3(D)
identify examples and non-examples of halves, fourths, and eighths.

3rd

3.3(A)
represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines

3.3(B)
determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

3.3(E)
solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

3.7(A)
represent fractions of halves, fourths, and eighths as distances from zero on a number line

3.3(C)
explain that the unit fraction $1/b$ represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

3.3(D)
compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts $1/b$

3.6(E)
decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape.

3.3(F)
represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

3.3(G)
explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.

4th

4.2(G)
relate decimals to fractions that name tenths and hundredths.

4.3(C)
determine if two given fractions are equivalent using a variety of methods

4.3(G)
represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.

whole number

6th

6.2(A)

classify sets and subsets using a visual representation such as a Venn diagram or a hierarchy to describe relationships between sets of rational numbers

7th

7.2(A)

extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers

8th

8.2(A)

determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

8.2(C)

write linear equations in two variables given a table of values, a graph, and a verbal description

width

3rd

3.6(C)
determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

3.6(D)
decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area.

4th

4.5(C)
use models to determine the formulas for the perimeter of a rectangle ($l + w + l + w$ or $2l + 2w$), including the special form for perimeter of a square ($4s$) and the area of a rectangle ($l imes w$).

4.5(D)
solve problems related to perimeter and area of rectangles where dimensions are whole numbers.

5th

5.4(G)
use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ($V = l imes w imes h$, $V = s imes s imes s$, and $V = Bh$).

5.4(H)
represent and solve problems related to perimeter and/or area and related to volume.

5.6(A)
recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible.

5.6(G)
Geometry and measurement. The student applies mathematical process standards to understand, recognize, and quantify volume. The student is expected to:

6th

6.8(B)
write corresponding real-world problems given one-variable, one- and two-step equations or inequalities

6.8(C)
represent solutions for one-variable, one- and two-step equations and inequalities on number lines

6.8(D)
model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts

Alg 1

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

withdrawal

2nd

2.11(A)
calculate how money saved can accumulate into a larger amount over time

2.11(B)
explain that saving is an alternative to spending

2.11(C)
distinguish between a deposit and a withdrawal

4th

4.10(A)
distinguish between fixed and variable expenses

4.10(C)
compare the advantages and disadvantages of various savings options

4.10(D)
describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.

4.10(E)
describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.

6th

6.14(A)
use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution

6.14(B)
summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution

6.14(C)
interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots

7th

7.13(A)
use data from a random sample to make inferences about a population

7.13(B)
compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations

7.13(D)
determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points.

7.13(E)
calculate and compare simple interest and compound interest earnings.

7.13(F)
analyze and compare monetary incentives, including sales, rebates, and coupons.

word form

1st

1.2(A)
recognize instantly the quantity of structured arrangements

1.2(B)
use concrete and pictorial models to compose and decompose numbers up to 120 in more than one way as so many hundreds, so many tens, and so many ones

1.2(C)
use objects, pictures, and expanded and standard forms to represent numbers up to 120

1.5(A)
recite numbers forward and backward from any given number between 1 and 120

2nd

2.2(A)
use concrete and pictorial models to compose and decompose numbers up to 1,200 in more than one way as a sum of so many thousands, hundreds, tens, and ones

2.2(B)
use standard, word, and expanded forms to represent numbers up to 1,200

work-study

6th

6.14(G)
explain various methods to pay for college, including through savings, grants, scholarships, student loans, and work-study.

6.14(H)
compare the annual salary of several occupations requiring various levels of post-secondary education or vocational training and calculate the effects of the different annual salaries on lifetime income.

x-axis

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

x-coordinate

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

x-intercept

8th

8.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.5(F)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b ot = 0$

8.5(H)
identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

x-values

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

y-axis

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

6th

6.11(A)
model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes.

8th

8.10(A)
add and subtract polynomials of degree one and degree two

8.10(B)
multiply polynomials of degree one and degree two

8.10(C)
determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend

Alg 1

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)
identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

y-coordinate

5th

5.8(A)
describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0, 0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin

5.8(B)
describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane.

5.8(C)
graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table.

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

y-intercept

8th

8.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

8.5(I)
write an equation in the form $y = mx + b$ to model a linear relationship between two quantities using verbal, numerical, tabular, and graphical representations.

8.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

8.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

8.5(F)
distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y = kx$ or $y = mx + b$, where $b
ot = 0$

8.5(H)
identify examples of proportional and non-proportional functions that arise from mathematical and real-world problems.

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.2(B)
write linear equations in two variables in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1), given one point and the slope and given two points

A.2(C)
write linear equations in two variables given a table of values, a graph, and a verbal description

A.2(E)
write the equation of a line that contains a given point and is parallel to a given line

A.2(F)
write the equation of a line that contains a given point and is perpendicular to a given line

A.2(G)
write an equation of a line that is parallel or perpendicular to the x- or y- axis and determine whether the slope of the line is zero or undefined

A.2(H)
write linear inequalities in two variables given a table of values, a graph, and a verbal description.

A.3(A)
use similar right triangles to develop an understanding that slope, m, given as the rate comparing the change in y-values to the change in x-values, (y2 - y1)/ (x2 - x1), is the same for any two points (x1, y1) and (x2, y2) on the same line

A.3(B)
graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(D)
calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in

mathematical and real-world problems

A.3(H)
determine the effects on the graph of the parent function f(x) = x when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
contrast bivariate sets of data that suggest a linear relationship with bivariate sets of data that do not suggest a linear relationship from a graphical representation

A.4(C)
use a trend line that approximates the linear relationship between bivariate sets of data to make predictions

A.5(B)
solve linear inequalities in one variable, including those for which the application of the distributive property is necessary and for which variables are included on both sides.

A.6(B)
write equations of quadratic functions given the vertex and another point on the graph, write the equation in vertex form (f(x) = a(x - h)2+ k), and rewrite the equation from vertex form to standard form (f(x) = ax2+ bx + c).

A.6(A)
determine the domain and range of quadratic functions and represent the domain and range using inequalities

A.6(C)
write quadratic functions when given real solutions and graphs of their related equations.

A.7(A)
graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(B)
describe the relationship between the linear factors of quadratic expressions and the zeros of their associated quadratic functions.

A.7(C)
determine the effects on the graph of the parent function f(x) = x2 when f(x) is replaced by af(x), f(x) + d, f(x - c), and f(bx) for specific values of a, b, c, and d.

A.8(A)
solve quadratic equations having real solutions by factoring, taking square roots, completing the square, and applying the quadratic formula.

A.8(B)
write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems.

A.9(A)
determine the domain and range of exponential functions of the form f(x) = abx and represent the domain and range using inequalities

A.9(B)
interpret the meaning of the values of a and b in exponential functions of the form f(x) = abx in real-world problems

A.9(D)
graph exponential functions that model growth and decay and identify key features, including y-intercept and asymptote, in mathematical and real-world problems.

A.12(A)
identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

A.12(C)
evaluate functions, expressed in function notation, given one or more elements in their domains

A.12(D)

identify terms of arithmetic and geometric sequences when the sequences are given in function form using recursive processes

Geom

G.2(A)
determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint

G.2(B)
derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines.

G.2(C)
determine an equation of a line parallel or perpendicular to a given line that passes through a given point.

G.12(E)
show that the equation of a circle with center at the origin and radius r is $x^2 + y^2 = r^2$ and determine the equation for the graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 =r^2$.

Alg 2

2A.3(E)
formulate systems of at least two linear inequalities in two variables

2A.3(F)
solve systems of two or more linear inequalities in two variables.

2A.3(G)
determine possible solutions in the solution set of systems of two or more linear inequalities in two variables.

y-values

5th

5.4(C)
generate a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$ and graph

5.4(D)
recognize the difference between additive and multiplicative numerical patterns given in a table or graph

yardstick

2nd

2.9(A)
find the length of objects using concrete models for standard units of length

2.9(B)
describe the inverse relationship between the size of the unit and the number of units needed to equal the length of an object

2.9(C)
represent whole numbers as distances from any given location on a number line

2.9(D)
determine the length of an object to the nearest marked unit using rulers, yardsticks, meter sticks, or measuring tapes

2.9(E)
determine a solution to a problem involving length, including estimating lengths

zero edge

4th

4.7(A)
illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers

4.7(B)
illustrate degrees as the units used to measure an angle, where $1/360$ of any circle is one degree and an angle that "cuts" $n/360$ out of any circle whose center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers

4.7(C)
determine the approximate measures of angles in degrees to the nearest whole number using a protractor

4.7(D)
draw an angle with a given measure.

4.7(E)
determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.

zeros

Alg 1

A.2(A)
determine the domain and range of a linear function in mathematical problems; determine reasonable domain and range values for real-world situations, both continuous and discrete; and represent domain and range using inequalities

A.3(C)
determine the slope of a line given a table of values, a graph, two points on the line, and an equation written in various forms, including y = mx + b, Ax + By = C, and y - y1 = m(x - x1)

A.3(E)
use data from a table or graph to determine the rate of change or slope and y-intercept in mathematical and real-world problems

A.4(A)
construct a scatterplot and describe the observed data to address questions of association such as linear, non-linear, and no association between bivariate data

A.4(B)
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A.6(B)
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write quadratic functions when given real solutions and graphs of their related equations.

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graph quadratic functions on the coordinate plane and use the graph to identify key attributes, if possible, including x-intercept, y-intercept, zeros, maximum value, minimum values, vertex, and the equation of the axis of symmetry

A.7(B)
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identify functions using sets of ordered pairs and mappings

A.12(B)
decide whether relations represented verbally, tabularly, graphically, and symbolically define a function

Social Studies | 714 visuals

19th Amendment

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.5(A)
analyze the impact of Progressive Era reforms, including initiative, referendum, recall, and the passage of the 16th, 17th, 18th, and 19th amendments

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(C)
describe the roles of political organizations that promoted African American, Chicano, American Indian, and women's civil rights

US.20(B)
explain why landmark constitutional amendments have been proposed and ratified from 1877 to the present.

US.22(A)
identify and analyze methods of expanding the right to participate in the democratic process, including lobbying, non-violent protesting, litigation, and amendments to the U.S. Constitution

US.22(B)
evaluate various means of achieving equality of political rights, including the 19th, 24th, and 26th amendments and congressional acts such as the American Indian Citizenship Act of 1924

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

US.25(D)
identify the contributions of women such as Rosa Parks, Eleanor Roosevelt, and Sonia Sotomayor to American society.

442nd Regimental Combat Team

5th

5.5(C)
identify the accomplishments and contributions of individuals and groups such as Susan B. Anthony, Martin Luther King Jr., Rosa Parks, Cesar Chavez, Franklin D. Roosevelt, Ronald Reagan, the Tuskegee Airmen, and the 442nd Regimental Combat Team in the areas of civil rights, women's rights, military actions, and politics.

1861 Secession Convention

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

7.5(B)
identify significant events concerning Texas and the Civil War such as the Battle of Galveston, the Battle of Sabine Pass, and the Battle of Palmito Ranch.

abolish/abolition/abolitionist

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

8th

8.24(A)
describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

abolition

4th

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abolition/abolitionist

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8.24(A)
describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

Aboriginals

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.13(D)
identify and explain examples of conflict and cooperation between and among cultures.

6.16(C)
identify examples of art, music, and literature that convey universal themes such as religion, justice, and the passage of time.

absolute distance

No TEKS assignments found for this visual.

absolute location

No TEKS assignments found for this visual.

activities

K

K.4(B)
identify how geographic location influences human characteristics of place such as shelter, clothing, food, and activities.

1st

1.5(B)
identify and describe how geographic location influences the human characteristics of place such as shelter, clothing, food, and activities.

adaptation

3rd

3.3(A)
describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

3.3(B)
identify and compare how people in different communities adapt to or modify the physical environment in which they live such as deserts, mountains, wetlands, and plains.

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

5th

5.8
Geography. The student understands how people adapt to and modify their environment. The student is expected to:

5.8(A)
describe how and why people have adapted to and modified their environment in the United States such as the use of human resources to meet basic needs.

adobe

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

Africa

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

African Great Lakes

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.7(A)
analyze population pyramids and use other data, graphics, and maps to describe the population characteristics of different societies and to predict future population trends

WG.7(B)
explain how physical geography and push and pull forces, including political, economic, social, and environmental conditions, affect the routes and flows of human migration

Afrikaans

World Geo

WG.1(A)
analyze significant physical features and environmental conditions that have influenced the past and migration patterns and have shaped the distribution of culture groups today.

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.2(A)
describe the human and physical characteristics of the same regions at different periods of time to analyze relationships between past events and current conditions.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

agriculture

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

4th

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.11(A)
identify how people in different regions of Texas earn their living, past and present

5th

5.11(B)
evaluate the effects of supply and demand on industry and agriculture, including the plantation system, in the United States.

6th

6.5(B)
identify and analyze ways people have adapted to the physical environment in various places and regions.

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

7th

7.6(B)
identify significant individuals, events, and issues, including the development of the cattle industry from its Spanish beginnings and the cowboy way of life

7.6(D)
explain the political, economic, and social impact of the agricultural industry and the development of West Texas resulting from the close of the frontier.

7.12(A)
explain the impact of national and international markets on the production of goods and services in Texas, including agriculture and oil and gas

8th

8.10(B)
compare places and regions of the United States in terms of physical and human characteristics.

8.11(A)
analyze how physical characteristics of the environment influenced population distribution, settlement patterns, and economic activities in the United States.

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

World Geo

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services

such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

WG.19(C)

analyze the environmental, economic, and social impacts of advances in technology on agriculture and natural resources.

agriculture/agricultural

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

4th

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

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World Geo

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WG.10(C)
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such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

WG.19(C)
analyze the environmental, economic, and social impacts of advances in technology on agriculture and natural resources.

Alien and Sedition Acts

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

8.21(A)
identify different points of view of political parties and interest groups on important historical issues

8.29(D)
identify bias and points of view created by the historical context surrounding an event

ally/alliance

USH

US.4(F)
analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

US.7(B)
evaluate the domestic and international leadership of Franklin D. Roosevelt and Harry Truman during World War II, including the U.S. relationship with its allies

US.7(D)
analyze major military events of World War II, including fighting the war on multiple fronts, the Bataan Death March, the U.S. military advancement through the Pacific Islands, the Battle of Midway, the invasion of Normandy, and the liberation of concentration camps

Alps

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

amendment

4th

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

4.13(C)
identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

8.16(A)
summarize the purposes for amending the U.S. Constitution.

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

American Anti-Slavery Society

8th

8.24(A)
describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

American Expeditionary Forces

USH

US.4(D)
understand the contributions of the American Expeditionary Forces (AEF) led by General John J. Pershing, including the Battle of Argonne Forest

American Revolution

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

5.2(C)
summarize the results of the American Revolution, including the establishment of the United States.

Andes Mountains

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

annex/annexation

8th

8.6(A)
explain how the Northwest Ordinance established principles and procedures for orderly expansion of the United States

USH

US.4(B)
evaluate American expansionism, including acquisitions such as Guam, Hawaii, the Philippines, and Puerto Rico

annexation

4th

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

7th

7.4(A)
identify individuals, events, and issues during the administrations of Republic of Texas Presidents Houston, Lamar, and Jones such as the Texas Navy, the Texas Rangers, Jack Coffee Hays, Chief Bowles, William Goyens, Mary Maverick, José Antonio Navarro, the Córdova Rebellion, the Council House Fight, the Santa Fe Expedition, slavery, and the roles of racial and ethnic groups

7.4(B)
analyze the causes of and events leading to Texas annexation such as security and public debt.

Antarctica

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Apache

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

apartheid

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.9(C)
identify and describe examples of human rights abuses by limited or unlimited governments such as the oppression of religious, ethnic, and political groups.

World Geo

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Appalachian Mountains

5th

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

appoint/appointment

5th

5.17(A)
explain why individuals have a duty to participate in civic affairs at the local, state, and national levels

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Appomattox Court House Surrender

8th

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

8.8(A)
explain the roles played by significant individuals during the Civil War, including Jefferson Davis, Ulysses S. Grant, Robert E. Lee, and Abraham Lincoln, and heroes such as congressional Medal of Honor recipients William Carney and Philip Bazaar

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

aquifer

4th

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

7th

7.8(B)
locate and compare places of importance in Texas in terms of physical and human characteristics such as major cities, waterways, natural and historic landmarks, political and cultural regions, and local points of interest.

archipelago

6th

6.4(B)

identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Arctic Ocean

2nd

2.4(A)

identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Articles of Confederation

8th

8.15(B)

summarize the strengths and weaknesses of the Articles of Confederation

artist

3rd

3.12(A)

Culture. The student understands the importance of writers and artists to the cultural heritage of communities. The student is expected to identify how various writers and artists such as Kadir Nelson, Tomie dePaola, Carmen Lomas Garza, and Laura Ingalls Wilder and their stories, poems, statues, and paintings contribute to the cultural heritage of communities.

Asia

2nd

2.4(A)

identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

assassination of Franz Ferdinand

USH

US.4(C)

identify the causes of World War I and reasons for U.S. entry

assassination of Martin Luther King, Jr.

USH

US.2(B)
explain the significance of the following years as turning points: 1898 (Spanish-American War), 1914-1918 (World War I), 1929 (the Great Depression begins), 1939-1945 (World War II), 1957 (Sputnik launch ignites U.S.-Soviet space race), 1968 (Martin Luther King Jr. assassination), 1969 (U.S. lands on the moon), 1991 (Cold War ends), 2001 (terrorist attacks on World Trade Center and the Pentagon), and 2008 (election of first black president, Barack Obama).

US.9C)
Description unavailable right now.

US.9(E)
compare and contrast the approach taken by the Black Panthers with the nonviolent approach of Martin Luther King Jr.

assimilation

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

7.2(F)
contrast Spanish, Mexican, and Anglo purposes for and methods of settlement in Texas.

7.10(A)
identify why immigrant groups came to Texas and where they settled

USH

US.3(A)
analyze political issues such as Indian policies, the growth of political machines, and civil service reform

US.25(B)
describe the Americanization movement to assimilate immigrants and American Indians into American culture

Atlantic Ocean

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Atlantic slave trade

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.9(C)
identify and describe examples of human rights abuses by limited or unlimited governments such as the oppression of religious, ethnic, and political groups.

atmosphere

World Geo

WG.
Description unavailable right now.

3(A)
Description unavailable right now.

3(B)
Description unavailable right now.

3(C)
Description unavailable right now.

atoll

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

attack on Pearl Harbor

USH

US.7(A)
identify reasons for U.S. involvement in World War II, including the aggression of Italian, German, and Japanese dictatorships, especially the attack on Pearl Harbor

Austin, Texas

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Australia

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(C)
Geography. The student understands how political, economic, and social processes shape cultural patterns and characteristics in various places and regions. The student is expected to:

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

Australian Outback

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

authoritarian

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.10(B)
compare ways in which various societies such as China, Germany, India, and Russia organize government and how they function.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

authority figures

K

K.8
Government. The student understands the role of authority figures. The student is expected to:

K.8(A)
identify authority figures in the home, school, and community.

K.8(B)
explain how authority figures enforce rules.

autocracy

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

Baltic States

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

Bank of the United States

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(B)
explain the effects of the Fugitive Slave Act of 1793

basic need

2nd

2.13(B)
explain how science and technology have affected the ways in which people meet basic needs.

basin

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.6(B)
compare the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains).

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

7th

7.8(A)
locate and compare the Mountains and Basins, Great Plains, North Central Plains, and Coastal Plains regions

Battle of Antietam

8th

8.8(A)
explain the roles played by significant individuals during the Civil War, including Jefferson Davis, Ulysses S. Grant, Robert E. Lee, and Abraham Lincoln, and heroes such as congressional Medal of Honor recipients William Carney and Philip Bazaar

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

Battle of Fort Sumter

8th

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

Battle of Gettysburg

8th

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

Battle of Goliad

7th

7.3(C)
explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

Battle of Gonzales

7th

7.3(C)

explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

Battle of Little Bighorn

USH

US.13(A)

analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

Battle of Medina

7th

7.2(D)

identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

Battle of Midway

USH

US.7(D)

analyze major military events of World War II, including fighting the war on multiple fronts, the Bataan Death March, the U.S. military advancement through the Pacific Islands, the Battle of Midway, the invasion of Normandy, and the liberation of concentration camps

Battle of San Jacinto

4th

4.3(A)

analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto

7th

7.3(B)

explain the roles played by significant individuals during the Texas Revolution, including George Childress, Lorenzo de Zavala, James Fannin, Sam Houston, Antonio López de Santa Anna, Juan N. Seguín, and William B. Travis.

7.3(C)

explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

Battle of Saratoga

8th

8.4(B)

explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.4(C)

explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

Battle of the Alamo

4th

4.3(B)

summarize the significant contributions of individuals such as William B. Travis, James Bowie, David Crockett, Juan N. Seguín, Plácido Benavides, José Francisco Ruiz, Antonio López de Santa Anna, Susanna Dickinson, and Enrique Esparza

7th

7.3(B)

explain the roles played by significant individuals during the Texas Revolution, including George Childress, Lorenzo de Zavala, James Fannin, Sam Houston, Antonio López de Santa Anna, Juan N. Seguín, and William B. Travis.

7.3(C)

explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

Battle of Vicksburg

8th

8.8(D)

analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

Battle of Yorktown

8th

8.4(B)

explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.4(C)

explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

Battles of Lexington and Concord

8th

8.4(C)

explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

before/after

K

K.14(B)

use social studies terminology related to time and chronology correctly, including before, after, next, first, last, yesterday, today, and tomorrow

Berlin Conference

World Geo

WG.1(A)

analyze significant physical features and environmental conditions that have influenced the past and migration patterns and have shaped the distribution of culture groups today.

WG.1(B)

trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.2(A)

describe the human and physical characteristics of the same regions at different periods of time to analyze relationships between past events and current conditions.

WG.12(A)

analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.13(A)

interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(A)

analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)

analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

WG.21(C)

create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

bicameral

8th

8.15(D)

analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Bill of Rights

3rd

3.8(A)
identify the purposes of the Declaration of Independence and the U.S. Constitution, including the Bill of Rights.

4th

4.13(C)
identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

5th

5.14(C)
explain the reasons for the creation of the Bill of Rights and its importance.

5.14
Government. The student understands important ideas in the Declaration of Independence, the U.S. Constitution, and the Bill of Rights. The student is expected to:

5.19(A)
Citizenship. The student understands the fundamental rights of American citizens guaranteed in the Bill of Rights. The student is expected to describe the fundamental rights guaranteed in the Bill of Rights, including freedom of religion, speech, and press; the right to assemble and petition the government; the right to keep and bear arms; the right to trial by jury; and the right to an attorney.

8th

8.19(B)
summarize rights guaranteed in the Bill of Rights.

biodiversity

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

black codes

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

Black Panther Party

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(C)
describe the roles of political organizations that promoted African American, Chicano, American Indian, and women's civil rights

US.9(D)
identify the roles of significant leaders who supported various rights movements, including Martin Luther King Jr., Cesar Chavez, Dolores Huerta, Rosa Parks, and Betty Friedan

US.9(E)
compare and contrast the approach taken by the Black Panthers with the nonviolent approach of Martin Luther King Jr.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

body of water

1st

1.5(A)
identify and describe the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Boston Tea Party

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

8th

8.20(B)
analyze reasons for and the impact of selected examples of civil disobedience in U.S. history such as the Boston Tea Party and Henry David Thoreau's refusal to pay a tax.

boycott

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

USH

US.9(I)
evaluate changes in the United States that have resulted from the civil rights movement, including increased participation of minorities in the political process.

British Commonwealth

World Geo

WG.1(A)
analyze significant physical features and environmental conditions that have influenced the past and migration patterns and have shaped the distribution of culture groups today.

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.2(A)
describe the human and physical characteristics of the same regions at different periods of time to analyze relationships between past events and current conditions.

WG.7(D)
analyze how globalization affects connectivity, standard of living, pandemics, and loss of local culture.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

Brown v. Board of Education

USH

US.9(J)
describe how Sweatt v. Painter and Brown v. Board of Education played a role in protecting the rights of the minority during the civil rights movement.

Buddhism

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

budget

3rd

3.5(A)
identify ways of earning, spending, saving, and donating money.

3.5(B)
create a simple budget that allocates money for spending and saving.

Buffalo Soldiers

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.14(C)
recite and explain the meaning of the Pledge to the Texas Flag.

7th

7.5(B)
identify significant events concerning Texas and the Civil War such as the Battle of Galveston, the Battle of Sabine Pass, and the Battle of Palmito Ranch.

7.6(A)
identify significant individuals, events, and issues, including the factors leading to the expansion of the Texas frontier, the effects of westward expansion on American Indians, the buffalo soldiers, and Quanah Parker

buying

1st

1.8(A)
identify examples of people wanting more than they can have

Caddo

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

California Gold Rush

8th

8.6(B)

analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

Camp David Accords

USH

US.10(C)

describe U.S. involvement in the Middle East such as support for Israel, the Camp David Accords, the Iran Hostage Crisis, Marines in Lebanon, and the Iran-Contra Affair

Canada

2nd

2.4(B)

locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

canal

6th

6.5(B)

identify and analyze ways people have adapted to the physical environment in various places and regions.

World Geo

WG.11(C)

assess how changes in climate, resources, and infrastructure (technology, transportation, and communication) affect the location and patterns of economic activities.

capitalism/free market/free enterprise

6th

6.7(A)

compare ways in which various societies organize the production and distribution of goods and services

6.7(B)

compare and contrast free enterprise, socialist, and communist economies in various contemporary societies, including the benefits of the U.S. free enterprise system.

6.7(C)

understand the importance of ethics in maintaining a functional free enterprise system.

cardinal directions

1st

1.3(B)
locate places using the four cardinal directions.

2nd

2.3(A)
identify and use information on maps and globes using basic map elements such as title, cardinal directions, and legend.

3rd

3.4(A)
use cardinal and intermediate directions to locate places on maps and globes in relation to the local community

cartogram

No TEKS assignments found for this visual.

cash crop

4th

4.10(B)
identify examples of the benefits of the free enterprise system such as choice and opportunity.

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

5th

5.9(B)
identify major industries of colonial America such as shipbuilding and growing of cash crops.

6th

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

8th

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

World Geo

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.12(B)
evaluate the geographic and economic impact of policies related to the development, use, and scarcity of natural resources such as regulations of water.

caste system

6th

6.17(B)
explain the significance of religious holidays and observances such as Christmas, Easter, Ramadan, the annual hajj, Yom Kippur, Rosh Hashanah, Diwali, and Vaisakhi in various contemporary societies.

World Geo

WG.8(A)
compare ways that humans depend on, adapt to, and modify the physical environment, including the influences of culture and technology

Catholic/Catholicism

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

Catholic missions

7th

7.1(A)
identify the major eras in Texas history, describe their defining characteristics, and explain the purpose of dividing the past into eras, including Natural Texas and its People; Age of Contact; Spanish Colonial; Mexican National; Revolution and Republic; Early Statehood; Texas in the Civil War and Reconstruction; Cotton, Cattle, and Railroads; Age of Oil; Texas in the Great Depression and World War II; Civil Rights; and Contemporary Texas.

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

cattle industry

4th

4.4(B)
explain the growth, development, and impact of the cattle industry such as contributions made by Charles Goodnight, Richard King, and Lizzie Johnson

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

4.11(A)
identify how people in different regions of Texas earn their living, past and present

cattle trails

4th

4.4(B)
explain the growth, development, and impact of the cattle industry such as contributions made by Charles Goodnight, Richard King, and Lizzie Johnson

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

4.11(A)
identify how people in different regions of Texas earn their living, past and present

4.4(C)
explain the effects of the railroad industry on life in Texas, including changes to cities and major industries.

7th

7.6(B)
identify significant individuals, events, and issues, including the development of the cattle industry from its Spanish beginnings and the cowboy way of life

7.9(A)
identify ways in which Texans have adapted to and modified the environment and explain the positive and negative consequences of the modifications.

Caucasus Mountains

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

censorship

6th

6.9(C)
identify and describe examples of human rights abuses by limited or unlimited governments such as the oppression of religious, ethnic, and political groups.

census

No TEKS assignments found for this visual.

central/federal/national government

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Centralists

7th

7.3(A)
describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

chart

3rd

3.5(A)
identify ways of earning, spending, saving, and donating money.

3.5(B)
create a simple budget that allocates money for spending and saving.

3.6(A)
explain how supply and demand affect the price of a good or service

3.6(B)
define and identify examples of scarcity

3.6(C)
explain how the cost of production and selling price affect profits.

checks and balances

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(B)
identify the reasons for and describe the system of checks and balances outlined in the U.S. Constitution.

6th

6.9(B)
identify reasons for limiting the power of government.

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Cherokee War

7th

7.4(A)
identify individuals, events, and issues during the administrations of Republic of Texas Presidents Houston, Lamar, and Jones such as the Texas Navy, the Texas Rangers, Jack Coffee Hays, Chief Bowles, William Goyens, Mary Maverick, José Antonio Navarro, the Córdova Rebellion, the Council House Fight, the Santa Fe Expedition, slavery, and the roles of racial and ethnic groups

Chinese Exclusion Act

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.15(C)
explain how foreign policies affected economic issues such as the Chinese Exclusion Act of 1882, the Open Door Policy, Dollar Diplomacy, and immigration quotas.

choropleth map

No TEKS assignments found for this visual.

Christianity

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

Christmas

6th

6.17(B)
explain the significance of religious holidays and observances such as Christmas, Easter, Ramadan, the annual hajj, Yom Kippur, Rosh Hashanah, Diwali, and Vaisakhi in various contemporary societies.

Christopher Columbus

K

K.2(A)

History. The student understands how historical figures helped shape the state and nation. The student is expected to identify contributions of historical figures, including Stephen F. Austin, George Washington, Christopher Columbus, and José Antonio Navarro, who helped to shape the state and nation.

Cinco de Mayo

4th

4.17(A)

identify customs, celebrations, and traditions of various cultural, regional, and local groups in Texas such as Cinco de Mayo, Oktoberfest, and Fiesta San Antonio.

citizen

1st

1.12(A)

identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting.

2nd

2.9(D)

identify how citizens participate in their own governance through staying informed of what public officials are doing, providing input to them, and volunteering to participate in government functions.

2.10(A)

identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting

2.10(C)

identify ways to actively practice good citizenship, including involvement in community service.

citizenship

1st

1.12(A)

identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting.

2nd

2.10(A)

identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting

2.10(C)

identify ways to actively practice good citizenship, including involvement in community service.

3rd

3.9(A)

identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and

voting

city-state

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

civic responsibility

3rd

3.9(A)
identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting

3.9(C)
identify and describe individual acts of civic responsibility, including obeying laws, serving and improving the community, serving on a jury, and voting

Civilian Conservation Corps

USH

US.16(D)
compare the New Deal policies and its opponents' approaches to resolving the economic effects of the Great Depression.

US.18(A)
evaluate the impact of New Deal legislation on the historical roles of state and federal government

civilization

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

civil liberties

8th

8.15(C)
identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights

civil rights

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

5.5(C)
identify the accomplishments and contributions of individuals and groups such as Susan B. Anthony, Martin Luther King Jr., Rosa Parks, Cesar Chavez, Franklin D. Roosevelt, Ronald Reagan, the Tuskegee Airmen, and the 442nd Regimental Combat Team in the areas of civil rights, women's rights, military actions, and politics.

Civil Rights Act of 1957

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(G)
describe presidential actions and congressional votes to address minority rights in the United States, including desegregation of the armed forces, the Civil Rights Act of 1964, and the Voting Rights Act of 1965

US.9(H)
explain how George Wallace, Orval Faubus, and the Congressional bloc of southern Democrats sought to maintain the status quo

Civil Rights Act of 1964

7th

7.7(D)
describe and compare the civil rights and equal rights movements of various groups in Texas in the 20th century and identify key leaders in these movements such as James L. Farmer Jr., Hector P. Garcia, Oveta Culp Hobby, Lyndon B. Johnson, the League of United Latin American Citizens (LULAC), Jane McCallum, and Lulu Belle Madison White.

USH

US.9(F)
discuss the impact of the writings of Martin Luther King Jr., including his "I Have a Dream" speech and "Letter from Birmingham Jail" on the civil rights movement

US.9(G)
describe presidential actions and congressional votes to address minority rights in the United States, including desegregation of the armed forces, the Civil Rights Act of 1964, and the Voting Rights Act of 1965

Civil Rights Movement

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

civil war

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.13(D)
identify and explain examples of conflict and cooperation between and among cultures.

Clean Air Act

USH

US.14(B)
identify the roles of governmental entities and private citizens in managing the environment such as the establishment of the National Park System, the Environmental Protection Agency (EPA), and the Endangered Species Act.

climate

3rd

3.3(A)
describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

5th

5.6(B)
describe regions in the United States based on physical characteristics such as landform, climate, and vegetation

6th

6.5(A)
describe ways people have been impacted by physical processes such as earthquakes and climate

World Geo

WG.3(A)
explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

clothing

K

K.4(B)
identify how geographic location influences human characteristics of place such as shelter, clothing, food, and activities.

K.5(A)
identify basic human needs of food, clothing, and shelter

1st

1.5(B)
identify and describe how geographic location influences the human characteristics of place such as shelter, clothing, food, and activities.

cloudy

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

coastal plains

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.6(B)
compare the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains).

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

coast of Texas

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

Cold War

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.13(D)
identify and explain examples of conflict and cooperation between and among cultures.

USH

US.8(A)
describe U.S. responses to Soviet aggression after World War II, including the Truman Doctrine, the Marshall Plan, the Berlin Airlift, the North Atlantic Treaty Organization, and John F. Kennedy's role in the Cuban Missile Crisis

US.8(B)
describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

US.8(C)
explain reasons and outcomes for U.S. involvement in the Korean War and its relationship to the containment policy

US.8(D)
explain reasons and outcomes for U.S. involvement in foreign countries and their relationship to the Domino Theory, including the Vietnam War

collective farms

6th

6.5(A)
describe ways people have been impacted by physical processes such as earthquakes and climate

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

colonialism/colony

6th

6.2(A)
identify and describe the historical influence of individuals or groups on various contemporary societies.

World Geo

WG.1(A)
analyze significant physical features and environmental conditions that have influenced the past and migration patterns and have shaped the distribution of culture groups today.

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.2(A)
describe the human and physical characteristics of the same regions at different periods of time to analyze relationships between past events and current conditions.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

colonize/colonization

4th

4.2(B)
identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

5th

5.1(A)
explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

6th

6.2(A)
identify and describe the historical influence of individuals or groups on various contemporary societies.

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

colony/colonist

5th

5.1(A)
explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

Columbian Exchange

6th

6.15(A)
identify and describe means of cultural diffusion such as trade, travel, and war

World Geo

WG.1(A)
analyze significant physical features and environmental conditions that have influenced the past and migration patterns and have shaped the distribution of culture groups today.

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG.18(A)
analyze cultural changes in specific regions caused by migration, war, trade, innovations, and diffusion

WG.2(A)
describe the human and physical characteristics of the same regions at different periods of time to analyze relationships between past events and current conditions.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

Comanche

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

commercial agriculture

World Geo

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

WG.19(C)
analyze the environmental, economic, and social impacts of advances in technology on agriculture and natural resources.

commodity chain

No TEKS assignments found for this visual.

Common Sense

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(C)
explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

communication

1st

1.15(B)
describe how technology has affected communication, transportation, and recreation.

2nd

2.13(A)
describe how science and technology have affected communication, transportation, and recreation.

3rd

3.2(B)
compare ways in which people in the local community and other communities meet their needs for government, education, communication, transportation, and recreation.

World Geo

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

communism

6th

6.7(B)
compare and contrast free enterprise, socialist, and communist economies in various contemporary societies, including the benefits of the U.S. free enterprise system.

World Geo

WG.10(A)
describe the forces that determine the distribution of goods and services in traditional, free enterprise, socialist, and communist economic systems

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

USH

US.6(A)
analyze causes and effects of events and social issues such as immigration, Social Darwinism, the Scopes Trial, eugenics, race relations, nativism, the Red Scare, Prohibition, and the changing role of women.

US.15(D)
describe the economic effects of international military conflicts, including the Spanish-American War and World War I, on the United States.

community

K

K.8(A)
identify authority figures in the home, school, and community.

K.6(A)
identify jobs in the home, school, and community.

1st

1.4(A)
create and use simple maps such as maps of the home, classroom, school, and community.

1.4(B)
locate and explore the community, Texas, and the United States on maps and globes.

1.7(A)
identify examples of goods and services in the home, school, and community

1.10(A)
explain the purpose for rules and laws in the home, school, and community.

1.11(A)
identify the responsibilities of authority figures in the home, school, and community.

1.11(B)
identify and describe the roles of public officials in the community, state, and nation.

1.14(A)
describe and explain the importance of beliefs, language, and traditions of families and communities.

1.14(B)
explain the way folktales and legends reflect beliefs, language, and traditions of communities.

2nd

2.3(B)
create maps to show places and routes within the home, school, and community.

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

3rd

3.1(A)
describe how individuals, events, and ideas have changed communities, past and present

3.2(A)
identify reasons people have formed communities, including a need for security and laws, religious freedom, and material well-being.

3.2(B)
compare ways in which people in the local community and other communities meet their needs for government, education, communication, transportation, and recreation.

community service

2nd

2.10(C)
identify ways to actively practice good citizenship, including involvement in community service.

compass rose

3rd

3.4(A)
use cardinal and intermediate directions to locate places on maps and globes in relation to the local community

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

Compromise of 1850

7th

7.4(C)
identify individuals, events, and issues during early Texas statehood, including the U.S.-Mexican War, the Treaty of Guadalupe-Hidalgo, slavery, and the Compromise of 1850.

8th

8.7(D)
analyze the impact of slavery on different sections of the United States.

8.21(C)
summarize historical events in which compromise resulted in a resolution such as the Missouri Compromise, Compromise of 1850, and Kansas-Nebraska Act.

concentration camps

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

conflict

1st

1.10(B)
identify rules and laws that establish order, provide security, and manage conflict.

2nd

2.8(A)
identify functions of governments such as establishing order, providing security, and managing conflict.

5th

5.2
History. The student understands how conflict between the American colonies and Great Britain led to American independence and the formation of the United States. The student is expected to:

5.4(B)
identify and explain how changes resulting from the Industrial Revolution led to conflict among sections of the United States

5.4(A)
describe the causes and effects of the War of 1812 such as impressment of sailors, territorial conflicts with Great Britain, and the increase in U.S. manufacturing

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.13(D)
identify and explain examples of conflict and cooperation between and among cultures.

Congo River

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

Congress of Racial Equality (CORE)

USH

US.9(C)
describe the roles of political organizations that promoted African American, Chicano, American Indian, and women's civil rights

conquistador

4th

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(B)
identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas

7th

7.1(A)
identify the major eras in Texas history, describe their defining characteristics, and explain the purpose of dividing the past into eras, including Natural Texas and its People; Age of Contact; Spanish Colonial; Mexican National; Revolution and Republic; Early Statehood; Texas in the Civil War and Reconstruction; Cotton, Cattle, and Railroads; Age of Oil; Texas in the Great Depression and World War II; Civil Rights; and Contemporary Texas.

7.2(B)
identify important individuals, events, and issues related to European exploration of Texas such as Alonso Álvarez de Pineda, Álvar Núñez Cabeza de Vaca, the search for gold, and the conflicting territorial claims between France and Spain

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

conserve

2nd

2.5(C)
identify ways people can conserve and replenish Earth's resources.

Constitution

5th

5.3
History. The student understands the significant individuals who contributed to the creation of the U.S. Constitution and the government it established. The student is expected to identify the contributions of Founding Fathers James Madison and George Mason who helped create the U.S. Constitution.

5.15
Government. The student understands the framework of government created by the U.S. Constitution of 1787. The student is expected to:

5.18
Citizenship. The student understands the importance of effective leadership in a constitutional republic. The student is expected to:

5.14(B)
explain the purposes of the U.S. Constitution as identified in the Preamble.

5.3(A)
History. The student understands the significant individuals who contributed to the creation of the U.S. Constitution and the government it established. The student is expected to identify the contributions of Founding Fathers James Madison and George Mason who helped create the U.S. Constitution.

5.15(B)
identify the reasons for and describe the system of checks and balances outlined in the U.S. Constitution.

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

5.14
Government. The student understands important ideas in the Declaration of Independence, the U.S. Constitution, and the Bill of Rights. The student is expected to:

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

constitutional/unconstitutional

8th

8.15(C)
identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

8.16(A)
summarize the purposes for amending the U.S. Constitution.

8.17(B)
explain constitutional issues arising over the issue of states' rights, including the Nullification Crisis and the Civil War.

8.18(A)
identify the origin of judicial review

Constitutional Convention

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.4(D)
analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

8.15(B)
summarize the strengths and weaknesses of the Articles of Confederation

8.21(C)
summarize historical events in which compromise resulted in a resolution such as the Missouri Compromise, Compromise of 1850, and Kansas-Nebraska Act.

Constitutional Convention of 1836

7th

7.3(C)
explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

constitutional monarchy

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

Constitution Day

K

K.1(A)
identify national patriotic holidays such as Constitution Day, Presidents' Day, Veterans Day, and Independence Day.

1st

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

Constitution of 1824

4th

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(B)
identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas

7th

7.2(D)
identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

constrictive population pyramid

No TEKS assignments found for this visual.

containment

USH

US.8(C)
explain reasons and outcomes for U.S. involvement in the Korean War and its relationship to the containment policy

continent

2nd

2.4(A)

identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

World Geo

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Continental Congress

8th

8.1(A)

identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.4(B)

explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.4(C)

explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

continental drift

World Geo

WG.3(B)

describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(A)

explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Conventions of 1832 and 1833

7th

7.3(A)

describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

coral reef

6th

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

Cornucopian theory

No TEKS assignments found for this visual.

corrupt bargain

8th

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

cotton gin

8th

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

8.27(A)
explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts

cotton industry

4th

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

4.11(A)
identify how people in different regions of Texas earn their living, past and present

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

Cuban missile crisis

USH

US.8(A)
describe U.S. responses to Soviet aggression after World War II, including the Truman Doctrine, the Marshall Plan, the Berlin Airlift, the North Atlantic Treaty Organization, and John F. Kennedy's role in the Cuban Missile Crisis

cultural diffusion

6th

6.3(B)
explain ways in which human migration influences the character of places and regions

6.15(A)
identify and describe means of cultural diffusion such as trade, travel, and war

6.15(D)
identify the impact of cultural diffusion on individuals and world societies.

culture

K

K.11
Culture. The student understands the importance of family traditions. The student is expected to:

K.11(B)
compare traditions among families.

6th

6.13(B)
define a multicultural society

6.13(C)
analyze the experiences and contributions of diverse groups to multicultural societies.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

culture traits

6th

6.13(B)
define a multicultural society

6.13(C)
analyze the experiences and contributions of diverse groups to multicultural societies.

cycle of poverty

6th

6.18(B)
explain how resources, economic factors, and political decisions affect the use of technology.

Daughters of Liberty

5th

5.2(B)
identify the Founding Fathers and Patriot heroes, including John Adams, Benjamin Franklin, Thomas Jefferson, the Sons of Liberty, and George Washington, and their motivations and contributions during the revolutionary period.

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.23(E)
identify the political, social, and economic contributions of women to American society.

Dawes Act

8th

8.9(D)
History. The student understands the effects of Reconstruction on the political, economic, and social life of the nation. The student is expected to:

(2010
Description unavailable right now.

TEKS)
Description unavailable right now.

USH

US.3(A)
analyze political issues such as Indian policies, the growth of political machines, and civil service reform

US.25(B)
describe the Americanization movement to assimilate immigrants and American Indians into American culture

Declaration of Independence

3rd

3.8(A)
identify the purposes of the Declaration of Independence and the U.S. Constitution, including the Bill of Rights.

5th

5.14
Government. The student understands important ideas in the Declaration of Independence, the U.S. Constitution, and the Bill of Rights. The student is expected to:

5.14(A)
explain the purposes, key elements, and the importance of the Declaration of Independence

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.4(C)
explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

8.15(E)
explain the role of significant individuals such as Thomas Hooker, Charles de Montesquieu, and John Locke in the development of self-government in colonial America.

deforestation

6th

6.5(A)
describe ways people have been impacted by physical processes such as earthquakes and climate

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

Delgado v. Bastrop ISD

USH

US.9(J)
describe how Sweatt v. Painter and Brown v. Board of Education played a role in protecting the rights of the minority during the civil rights movement.

delta

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

demand

3rd

3.6(A)
explain how supply and demand affect the price of a good or service

4th

4.10(A)
describe how the free enterprise system works, including supply and demand

5th

5.11
Economics. The student understands the impact of supply and demand on consumers and producers in a free enterprise system. The student is expected to:

5.11(A)
explain how supply and demand affects consumers in the United States.

5.11(B)
evaluate the effects of supply and demand on industry and agriculture, including the plantation system, in the United States.

democracy

4th

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

4.15(C)
explain the duty of the individual in state and local elections such as being informed and voting

5th

5.17
Citizenship. The student understands the importance of individual participation in the democratic process at the local, state, and national levels. The student is expected to:

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.10(C)
identify historical origins of democratic forms of government such as Ancient Greece.

6.11(A)
describe and compare roles and responsibilities of citizens in various contemporary societies, including the United States.

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

6.12(B)
explain relationships among rights, responsibilities, and duties in societies with representative governments.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

democracy/democratic

4th

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

4.15(C)
explain the duty of the individual in state and local elections such as being informed and voting

5th

5.17
Citizenship. The student understands the importance of individual participation in the democratic process at the local, state, and national levels. The student is expected to:

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

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explain relationships among rights, responsibilities, and duties in societies with representative governments.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

Democratic-Republicans

8th

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

8.21(A)
identify different points of view of political parties and interest groups on important historical issues

democratic republic

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(A)
describe and compare roles and responsibilities of citizens in various contemporary societies, including the United States.

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

6.12(B)
explain relationships among rights, responsibilities, and duties in societies with representative governments.

demographic indicators

World Geo

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

demographic transition model

No TEKS assignments found for this visual.

dense population

4th

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

dependency ratio

No TEKS assignments found for this visual.

desert

6th

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

desertification

6th

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

developed economy

6th

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

developing economy

6th

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

dictator/dictatorship

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

diffusion

World Geo

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.12(B)
evaluate the geographic and economic impact of policies related to the development, use, and scarcity of natural resources such as regulations of water.

WG.18(A)
analyze cultural changes in specific regions caused by migration, war, trade, innovations, and diffusion

direct election

USH

US.5(A)
analyze the impact of Progressive Era reforms, including initiative, referendum, recall, and the passage of the 16th, 17th, 18th, and 19th amendments

US.20(B)
explain why landmark constitutional amendments have been proposed and ratified from 1877 to the present.

distance decay/friction of distance

No TEKS assignments found for this visual.

diverse/diversity

6th

6.13(B)
define a multicultural society

6.13(C)
analyze the experiences and contributions of diverse groups to multicultural societies.

World Geo

WG.17(D)
evaluate the experiences and contributions of diverse groups to multicultural societies.

Domino Theory

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.7(B)
compare and contrast free enterprise, socialist, and communist economies in various contemporary societies, including the benefits of the U.S. free enterprise system.

USH

US.8(D)
explain reasons and outcomes for U.S. involvement in foreign countries and their relationship to the Domino Theory, including the Vietnam War

donating

3rd

3.5(A)
identify ways of earning, spending, saving, and donating money.

dot distribution map

No TEKS assignments found for this visual.

Dred Scott v. Sandford

8th

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.18(C)
evaluate the impact of the landmark Supreme Court decision Dred Scott v. Sandford on life in the United States.

8.21(A)
identify different points of view of political parties and interest groups on important historical issues

8.24(A)
describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

drilling

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

drought

6th

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

due process

5th

5.14(C)
explain the reasons for the creation of the Bill of Rights and its importance.

8th

8.15(C)
identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights

Dust Bowl

4th

4.5(A)
explain the impact of various events on life in Texas such as the Great Depression, the Dust Bowl, and World War II and notable individuals such as Audie Murphy, Cleto Rodríguez, and Bessie Coleman and other local individuals.

7th

7.8(C)
analyze the effects of physical and human factors such as climate, weather, landforms, irrigation, transportation, and communication on major events in Texas.

7.9(A)
identify ways in which Texans have adapted to and modified the environment and explain the positive and negative consequences of the modifications.

7.9(B)
explain ways in which geographic factors such as the Galveston Hurricane of 1900, the Dust Bowl, limited water resources, and alternative energy sources have affected the political, economic, and social development of Texas.

USH

US.12(A)
Geography. The student understands the impact of geographic factors on major events. The student is expected to analyze the impact of physical and human geographic factors on the Klondike Gold Rush, the Panama Canal, the Dust Bowl, and the levee failure in New Orleans after Hurricane Katrina.

US.14(A)
identify the effects of population growth and distribution on the physical environment.

US.16(C)
analyze the effects of the Great Depression on the U.S. economy and society such as widespread unemployment and deportation and repatriation of people of Mexican heritage

dynasties

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

dynasty

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

Earth's resources

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

2.5(B)
identify consequences of human modification of the physical environment.

Earth’s resources

1st

1.5(A)
identify and describe the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

economic activities

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.9(A)
explain the economic activities various early American Indian groups in Texas used to meet their needs and wants such as farming, trading, and hunting.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.11(D)
explain how developments in transportation and communication have influenced economic activities in Texas.

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

4.9
Economics. The student understands the basic economic activities of early societies in Texas. The student is expected to:

4.11
Economics. The student understands patterns of work and economic activities in Texas. The student is expected to:

World Geo

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

WG.11(A)
understand the connections between levels of development and economic activities (primary, secondary, tertiary, and quaternary)

economic development

4th

4.11(C)
identify the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

Edgewood ISD v. Kirby

USH

US.9(J)
describe how Sweatt v. Painter and Brown v. Board of Education played a role in protecting the rights of the minority during the civil rights movement.

election

4th

4.16(B)
identify leadership qualities of state and local leaders, past and present.

2nd

2.9(C)
identify ways that public officials are selected, including election and appointment to office.

5th

5.5(B)
analyze various issues and events of the 21st century such as the War on Terror and the 2008 presidential election.

election of 1824

8th

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

election of 2008

5th

5.5(B)
analyze various issues and events of the 21st century such as the War on Terror and the 2008 presidential election.

Electoral College

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

elevation

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

El Niño

World Geo

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.8(B)
analyze the consequences of extreme weather and other natural disasters such as El Niño, floods, tsunamis, and volcanoes on people and their environment.

Emancipation Proclamation

8th

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

8.22(A)
analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

Embargo of 1807

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(D)
explain the origin and development of American political parties

8.5(E)
explain the causes, important events, and effects of the War of 1812

empresario

4th

4.2(E)
identify the accomplishments and explain the economic motivations and impact of significant empresarios, including Stephen F. Austin and Martín de León, on the settlement of Texas.

7th

7.2(E)
identify the contributions of significant individuals, including Moses Austin, Stephen F. Austin, Erasmo Seguín, Martín De León, and Green DeWitt, during the Mexican settlement of Texas.

7.2(F)
contrast Spanish, Mexican, and Anglo purposes for and methods of settlement in Texas.

Endangered Species Act

USH

US.14(B)
identify the roles of governmental entities and private citizens in managing the environment such as the establishment of the National Park System, the Environmental Protection Agency (EPA), and the Endangered Species Act.

enslaved people

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

entrepreneur

3rd

3.6(D)
identify individuals, past and present, such as Henry Ford and Sam Walton who have started new businesses.

5th

5.10(A)
identify the development of the free enterprise system in colonial America and the United States

5.10(B)
describe how the free enterprise system works in the United States.

5.10(C)
give examples of the benefits of the free enterprise system in the United States.

5.11
Economics. The student understands the impact of supply and demand on consumers and producers in a free enterprise system. The student is expected to:

6th

6.6(A)
describe ways in which the factors of production (natural resources, labor, capital, and entrepreneurs) influence the economies of various contemporary societies

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.7(B)
compare and contrast free enterprise, socialist, and communist economies in various contemporary societies, including the benefits of the U.S. free enterprise system.

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.13(B)
analyze the causes and effects of changing demographic patterns resulting from immigration to the United States.

US.27(A)
analyze how scientific discoveries, technological innovations, space exploration, and the application of these by the free enterprise system improve the standard of living in the United States, including changes in transportation and communication.

environment

5th

5.8
Geography. The student understands how people adapt to and modify their environment. The student is expected to:

5.8(A)
describe how and why people have adapted to and modified their environment in the United States such as the use of human resources to meet basic needs.

5.8(B)
analyze the positive and negative consequences of human modification of the environment in the United States.

8th

8.11(A)
analyze how physical characteristics of the environment influenced population distribution, settlement patterns, and economic activities in the United States.

environmental determinism

No TEKS assignments found for this visual.

environmentalism

6th

6.5(B)
identify and analyze ways people have adapted to the physical environment in various places and regions.

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

environmental possibilism

No TEKS assignments found for this visual.

epidemic diseases

6th

6.6(B)
identify problems that may arise when one or more of the factors of production is in relatively short supply.

E Pluribus Unum

USH

US.1(C)
explain the meaning and historical significance of the mottos "E Pluribus Unum" and "In God We Trust."

Equal Rights Amendment (ERA)

USH

US.9(C)
describe the roles of political organizations that promoted African American, Chicano, American Indian, and women's civil rights

US.9(D)
identify the roles of significant leaders who supported various rights movements, including Martin Luther King Jr., Cesar Chavez, Dolores Huerta, Rosa Parks, and Betty Friedan

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

US.25(D)
identify the contributions of women such as Rosa Parks, Eleanor Roosevelt, and Sonia Sotomayor to American society.

Erie Canal

8th

8.27(B)
analyze how technological innovations changed the way goods were manufactured and distributed, nationally and internationally.

erosion

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

escarpment

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

7th

7.8(A)
locate and compare the Mountains and Basins, Great Plains, North Central Plains, and Coastal Plains regions

7.8(B)
locate and compare places of importance in Texas in terms of physical and human characteristics such as major cities, waterways, natural and historic landmarks, political and cultural regions, and local points of interest.

Espionage and Sedition Acts

USH

US.18(B)
explain constitutional issues raised by federal government policy changes during times of significant events, including World War I, the Great Depression, World War II, the 1960s, and September 11, 2001

ethnic/cultural celebration

3rd

3.10(A)
explain the significance of various ethnic and/or cultural celebrations in the local community and other communities.

Eurasian Steppes

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

Europe

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

European exploration

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

European Union

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

European Union (EU)

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

executive branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Executive Order 9066

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

expansionism

USH

US.4(A)
explain why significant events, policies, and individuals, including the Spanish-American War, U.S. expansionism, Alfred Thayer Mahan, Theodore Roosevelt, and Sanford B. Dole moved the United States into the position of a world power

US.4(B)
evaluate American expansionism, including acquisitions such as Guam, Hawaii, the Philippines, and Puerto Rico

expansive population pyramid

No TEKS assignments found for this visual.

extermination camps

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

factors of climate

6th

6.5(A)
describe ways people have been impacted by physical processes such as earthquakes and climate

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

factors of production

6th

6.7(A)
compare ways in which various societies organize the production and distribution of goods and services

6.6(A)
describe ways in which the factors of production (natural resources, labor, capital, and entrepreneurs) influence the economies of various contemporary societies

6.6(B)
identify problems that may arise when one or more of the factors of production is in relatively short supply.

7th

7.11(A)
explain economic factors and the development of major industries that led to the urbanization of Texas such as transportation, oil and gas, and manufacturing.

7.12(A)
explain the impact of national and international markets on the production of goods and services in Texas, including agriculture and oil and gas

Fair Housing Act

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(D)
identify the roles of significant leaders who supported various rights movements, including Martin Luther King Jr., Cesar Chavez, Dolores Huerta, Rosa Parks, and Betty Friedan

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

federalism

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Federalist Papers

8th

8.15(A)
identify the influence of ideas from historic documents, including the Magna Carta, the English Bill of Rights, the Mayflower Compact, and the Federalist Papers, on the U.S. system of government

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Federalists

7th

7.3(A)
describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

Federalists/Anti-Federalists

8th

8.17(A)
analyze the arguments of the Federalists and Anti-Federalists, including those of Alexander Hamilton, Patrick Henry, James Madison, and George Mason, and explain how their debates exemplify civil discourse.

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Fifteenth (15th) Amendment

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.13(C)
identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

Fifteenth Amendment

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.13(C)
identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

filibuster

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

fire protection

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

first/next/last

K

K.14(B)
use social studies terminology related to time and chronology correctly, including before, after, next, first, last, yesterday, today, and tomorrow

First 1stAmendment

USH

US.8(B)
describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

US.9(J)
describe how Sweatt v. Painter and Brown v. Board of Education played a role in protecting the rights of the minority during the civil rights movement.

First Great Migration

USH

US.6(B)
analyze the impact of significant individuals such as Henry Ford, Marcus Garvey, and Charles A. Lindbergh.

US.13(A)
analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

first responders

3rd

3.11(A)
identify and describe the heroic deeds of state and national heroes and military and first responders such as Hector P. Garcia, James A. Lovell, and the Four Chaplains.

five oceans

No TEKS assignments found for this visual.

flood

6th

6.5(C)
identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

formal region

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

Fourteenth (14th) Amendment

4th

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

4.13(C)
identify the intent, meaning, and importance of the Declaration of Independence, the U.S. Constitution, and the Bill of Rights (Celebrate Freedom Week).

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.20(B)
explain why landmark constitutional amendments have been proposed and ratified from 1877 to the present.

US.22(A)
identify and analyze methods of expanding the right to participate in the democratic process, including lobbying, non-violent protesting, litigation, and amendments to the U.S. Constitution

US.22(B)
evaluate various means of achieving equality of political rights, including the 19th, 24th, and 26th amendments and congressional acts such as the American Indian Citizenship Act of 1924

Fredonian Rebellion

7th

7.3(A)
describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

7.10(B)
describe how immigration and migration to Texas have influenced Texas

Freedmen's Bureau

8th

8.9(A)
evaluate legislative reform programs of the Radical Reconstruction Congress and reconstructed state governments

8.9(C)
explain the economic, political, and social problems during Reconstruction and evaluate their impact on different groups.

freedom of speech

6th

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

6.12(B)
explain relationships among rights, responsibilities, and duties in societies with representative governments.

7th

7.16(B)
describe the importance of free speech and press in a democratic society.

free enterprise system

3rd

3.6(A)
explain how supply and demand affect the price of a good or service

4th

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

5th

5.10(A)
identify the development of the free enterprise system in colonial America and the United States

5.10(B)
describe how the free enterprise system works in the United States.

5.10(C)
give examples of the benefits of the free enterprise system in the United States.

5.11
Economics. The student understands the impact of supply and demand on consumers and producers in a free enterprise system. The student is expected to:

7th

7.12(B)
explain the impact of economic concepts within the free enterprise system such as supply and demand, profit, and world competition on the economy of Texas.

8th

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

8.14(B)
describe the characteristics and the benefits of the U.S. free enterprise system through 1877.

free market capitalism

World Geo

WG.10(A)
describe the forces that determine the distribution of goods and services in traditional, free enterprise, socialist, and communist economic systems

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

French and Indian War

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

French exploration

4th

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(B)
identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas

7th

7.2(B)
identify important individuals, events, and issues related to European exploration of Texas such as Alonso Álvarez de Pineda, Álvar Núñez Cabeza de Vaca, the search for gold, and the conflicting territorial claims between France and Spain

Fugitive Slave Act

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

8.20(B)
analyze reasons for and the impact of selected examples of civil disobedience in U.S. history such as the Boston Tea Party and Henry David Thoreau's refusal to pay a tax.

functional region

World Geo

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.12(B)
evaluate the geographic and economic impact of policies related to the development, use, and scarcity of natural resources such as regulations of water.

functions of government

2nd

2.8(A)
identify functions of governments such as establishing order, providing security, and managing conflict.

2.9(D)
identify how citizens participate in their own governance through staying informed of what public officials are doing, providing input to them, and volunteering to participate in government functions.

3rd

3.7(A)
describe the basic structure of government in the local community, state, and nation

Fundamental Orders of Connecticut

8th

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.3(A)
explain the reasons for the growth of representative government and institutions during the colonial period

8.3(B)
analyze the importance of the Mayflower Compact, the Fundamental Orders of Connecticut, and the Virginia House of Burgesses to the growth of representative government.

8.15(E)
explain the role of significant individuals such as Thomas Hooker, Charles de Montesquieu, and John Locke in the development of self-government in colonial America.

Gadsden Purchase

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.6(C)
explain the causes and effects of the U.S.-Mexican War and their impact on the United States.

Ganges River

World Geo

WG.8(A)
compare ways that humans depend on, adapt to, and modify the physical environment, including the influences of culture and technology

WG9(A)
Description unavailable right now.

GDP per capita

6th

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

General Agreement on Tariffs and Trade (GATT)

USH

US.17(E)
describe the dynamic relationship between U.S. international trade policies and the U.S. free enterprise system such as the Organization of Petroleum Exporting Countries (OPEC) oil embargo, the General Agreement on Tariffs and Trade (GATT), and the North American Free Trade Agreement (NAFTA).

genocide

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

geographic data

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

4.20(B)
interpret geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

geographic factors

4th

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

geographic scale

No TEKS assignments found for this visual.

George Washington

K

K.2(A)

History. The student understands how historical figures helped shape the state and nation. The student is expected to identify contributions of historical figures, including Stephen F. Austin, George Washington, Christopher Columbus, and José Antonio Navarro, who helped to shape the state and nation.

1st

1.2(A)

identify contributions of historical figures, including Sam Houston, George Washington, Abraham Lincoln, and Martin Luther King Jr., who have influenced the state and nation.

5th

5.2(B)

identify the Founding Fathers and Patriot heroes, including John Adams, Benjamin Franklin, Thomas Jefferson, the Sons of Liberty, and George Washington, and their motivations and contributions during the revolutionary period.

5.22(A)

identify the accomplishments of notable individuals in the fields of science and technology such as Benjamin Franklin, Eli Whitney, John Deere, Thomas Edison, Alexander Graham Bell, George Washington Carver, the Wright Brothers, and Neil Armstrong

gerrymandering

USH

US.20(A)

analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

Gettysburg Address

8th

8.8(D)

analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

8.22(A)

analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

GI Bill (Servicemen's Readjustment Act of 1944)

USH

US.17(B)

identify the causes of prosperity in the 1950s, including the Baby Boom and the impact of the GI Bill (Servicemen's Readjustment Act of 1944), and the effects of prosperity in the 1950s such as increased consumption and the growth of agriculture and business

Gilded Age

No TEKS assignments found for this visual.

glacier

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

globalization

6th

6.6(C)
explain the impact of the distribution of resources on international trade and economic interdependence among and within societies.

World Geo

WG.7(D)
analyze how globalization affects connectivity, standard of living, pandemics, and loss of local culture.

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

Global War on Terrorism

USH

US.2(B)
explain the significance of the following years as turning points: 1898 (Spanish-American War), 1914-1918 (World War I), 1929 (the Great Depression begins), 1939-1945 (World War II), 1957 (Sputnik launch ignites U.S.-Soviet space race), 1968 (Martin Luther King Jr. assassination), 1969 (U.S. lands on the moon), 1991 (Cold War ends), 2001 (terrorist attacks on World Trade Center and the Pentagon), and 2008 (election of first black president, Barack Obama).

US.11(A)
describe U.S. involvement in world affairs, including the end of the Cold War, the Persian Gulf War, the events surrounding September 11, 2001, and the global War on Terror

globe

K

K.3(C)
identify and use geographic tools that aid in determining location, including maps and globes.

1st

1.4(B)
locate and explore the community, Texas, and the United States on maps and globes.

2nd

2.3(A)
identify and use information on maps and globes using basic map elements such as title, cardinal directions, and legend.

2.3(B)
create maps to show places and routes within the home, school, and community.

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

goods

1st

1.7(A)
identify examples of goods and services in the home, school, and community

1.7(B)
identify ways people exchange goods and services.

1.7(C)
identify the role of markets in the exchange of goods and services.

1.9(B)
describe how various jobs contribute to the production of goods and services.

2nd

2.6(A)
explain how work provides income to purchase goods and services.

3rd

3.6(A)
explain how supply and demand affect the price of a good or service

governmental services

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

governor

2nd

2.9(A)
name current public officials, including mayor, governor, and president

2.9(B)
compare the roles of public officials, including mayor, governor, and president

4th

4.15(E)
explain how to contact elected and appointed leaders in state and local governments.

GPS

World Geo

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

gravity model

No TEKS assignments found for this visual.

Great Compromise

8th

8.4(D)
analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

8.21(C)
summarize historical events in which compromise resulted in a resolution such as the Missouri Compromise, Compromise of 1850, and Kansas-Nebraska Act.

Great Depression

4th

4.5(A)
explain the impact of various events on life in Texas such as the Great Depression, the Dust Bowl, and World War II and notable individuals such as Audie Murphy, Cleto Rodríguez, and Bessie Coleman and other local individuals.

4.10(A)
describe how the free enterprise system works, including supply and demand

4.10(B)
identify examples of the benefits of the free enterprise system such as choice and opportunity.

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

7th

7.1(A)
identify the major eras in Texas history, describe their defining characteristics, and explain the purpose of dividing the past into eras, including Natural Texas and its People; Age of Contact; Spanish Colonial; Mexican National; Revolution and Republic; Early Statehood; Texas in the Civil War and Reconstruction; Cotton, Cattle, and Railroads; Age of Oil; Texas in the Great Depression and World War II; Civil Rights; and Contemporary Texas.

7.7(E)
analyze the political, economic, and social impact of World War I, the Great Depression, World War II, and significant issues in the latter half of the 20th and early 21st centuries such as political and economic controversies, immigration, and migration on the history of Texas.

USH

US.16(B)
identify the causes of the Great Depression, including the impact of tariffs on world trade, stock market speculation, bank failures, and the monetary policy of the Federal Reserve System

US.16(C)
analyze the effects of the Great Depression on the U.S. economy and society such as widespread unemployment and deportation and repatriation of people of Mexican heritage

Great Irish Famine

8th

8.23(A)
identify racial, ethnic, and religious groups that settled in the United States and explain their reasons for immigration

8.28(B)
identify examples of how industrialization changed life in the United States.

Great Lakes

5th

5.6(D)

create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

World Geo

WG.4(A)

explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)

locate and describe human and physical features that influence the size and distribution of settlements.

Great Plains

5th

5.6(D)

create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

World Geo

WG.4(A)

explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)

locate and describe human and physical features that influence the size and distribution of settlements.

Great Rift Valley

6th

6.20(D)

create and interpret regional sketch maps, thematic maps, graphs, and charts depicting aspects such as population, disease, and economic activities of various world regions and countries.

World Geo

WG.3(B)

describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(A)

explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Great Society

USH

US.17(D)
identify the actions and outcomes of government policies intended to create economic opportunities for citizens such as the Great Society, affirmative action, and Title IX.

Great Wall of China

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)WG.7(B)
Description unavailable right now.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

gross domestic product (GDP)

6th

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

World Geo

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

Gulf of Tonkin Resolution

USH

US.8(D)
explain reasons and outcomes for U.S. involvement in foreign countries and their relationship to the Domino Theory, including the Vietnam War

US.8(E)
analyze the major events of the Vietnam War, including the escalation of forces, the Tet Offensive, Vietnamization, and the fall of Saigon.

US.19(A)
describe the impact of events such as the Gulf of Tonkin Resolution and the War Powers Act on the relationship between the legislative and executive branches of government.

Gulf peoples

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

Hadrian's Wall

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)WG.7(B)
Description unavailable right now.

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

Harlem Renaissance

USH

US.6(B)
analyze the impact of significant individuals such as Henry Ford, Marcus Garvey, and Charles A. Lindbergh.

US.24(A)
describe how the characteristics of and issues in U.S. history have been reflected in various genres of art, music, film, and literature

US.24(B)
describe the impacts of cultural movements in art, music, and literature such as Tin Pan Alley, the Harlem Renaissance, the Beat Generation, rock and roll, the Chicano Mural Movement, and country and western music on American society.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

US.25(C)
explain how the contributions of people of various racial, ethnic, gender, and religious groups shape American culture.

heat map

No TEKS assignments found for this visual.

Hernandez v. Texas

USH

US.9(I)
evaluate changes in the United States that have resulted from the civil rights movement, including increased participation of minorities in the political process.

US.9(J)
describe how Sweatt v. Painter and Brown v. Board of Education played a role in protecting the rights of the minority during the civil rights movement.

US.20(A)
analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

Himalaya Mountains

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.4(A)
explain the geographic factors responsible for the location of economic activities in places and regions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

Hinduism

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

holiday

K

K.1
History. The student understands that holidays are celebrations of special events. The student is expected to:

K.1(A)
identify national patriotic holidays such as Constitution Day, Presidents' Day, Veterans Day, and Independence Day.

K.1(B)
identify customs associated with national patriotic holidays such as parades and fireworks on Independence Day.

1st

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

1.1(B)
compare the observance of holidays and celebrations.

Holocaust

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.2(A)
identify and describe the historical influence of individuals or groups on various contemporary societies.

6.9(C)
identify and describe examples of human rights abuses by limited or unlimited governments such as the oppression of religious, ethnic, and political groups.

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

Homestead Act

8th

8.9(D)
History. The student understands the effects of Reconstruction on the political, economic, and social life of the nation. The student is expected to:

(2010
Description unavailable right now.

TEKS)
Description unavailable right now.

USH

US.15(A)
describe how the economic impact of the Transcontinental Railroad and the Homestead Act contributed to the close of the frontier in the late 19th century

homesteader

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.12(A)
Geography. The student understands the impact of geographic factors on major events. The student is expected to analyze the impact of physical and human geographic factors on the Klondike Gold Rush, the Panama Canal, the Dust Bowl, and the levee failure in New Orleans after Hurricane Katrina.

US.13(A)
analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

US.15(A)
describe how the economic impact of the Transcontinental Railroad and the Homestead Act contributed to the close of the frontier in the late 19th century

Hooverville

USH

US.16(C)

analyze the effects of the Great Depression on the U.S. economy and society such as widespread unemployment and deportation and repatriation of people of Mexican heritage

House of Burgesses

5th

5.13(B)

identify examples of representative government in the American colonies, including the Mayflower Compact and the Virginia House of Burgesses.

8th

8.3(B)

analyze the importance of the Mayflower Compact, the Fundamental Orders of Connecticut, and the Virginia House of Burgesses to the growth of representative government.

House Un-American Activities Committee (HUAC)

USH

US.8(B)

describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

human development index

World Geo

WG.5(B)

interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

human modification

2nd

2.5(A)

identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

2.5(B)

identify consequences of human modification of the physical environment.

5th

5.8

Geography. The student understands how people adapt to and modify their environment. The student is expected to:

5.8(B)

analyze the positive and negative consequences of human modification of the environment in the United States.

hydrosphere

World Geo

WG.4(A)

explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

immigration

7th

7.10(B)
describe how immigration and migration to Texas have influenced Texas

7.18(B)
describe how people from various racial, ethnic, and religious groups attempt to maintain their cultural heritage while adapting to the larger Texas culture

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

immigration/immigrant

4th

4.11(C)
identify the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas.

5th

5.4(F)
identify the challenges, opportunities, and contributions of people from various American Indian and immigrant groups such as the settlement of the frontier and building of the Transcontinental Railroad.

6th

6.3(B)
explain ways in which human migration influences the character of places and regions

8th

8.23(A)
identify racial, ethnic, and religious groups that settled in the United States and explain their reasons for immigration

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.13(B)
analyze the causes and effects of changing demographic patterns resulting from immigration to the United States.

US.25(C)
explain how the contributions of people of various racial, ethnic, gender, and religious groups shape American culture.

immigration/immigrants

4th

4.11(C)
identify the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas.

5th

5.4(F)
identify the challenges, opportunities, and contributions of people from various American Indian and immigrant groups such as the settlement of the frontier and building of the Transcontinental Railroad.

6th

6.3(B)
explain ways in which human migration influences the character of places and regions

8th

8.23(A)
identify racial, ethnic, and religious groups that settled in the United States and explain their reasons for immigration

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.13(B)
analyze the causes and effects of changing demographic patterns resulting from immigration to the United States.

US.25(C)
explain how the contributions of people of various racial, ethnic, gender, and religious groups shape American culture.

impressment

5th

5.4(A)
describe the causes and effects of the War of 1812 such as impressment of sailors, territorial conflicts with Great Britain, and the increase in U.S. manufacturing

independence

5th

5.2(C)
summarize the results of the American Revolution, including the establishment of the United States.

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

8th

8.4(C)
explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

8.15(C)
identify colonial grievances listed in the Declaration of Independence and explain how those grievances were addressed in the U.S. Constitution and the Bill of Rights

Independence Day

K

K.1(A)
identify national patriotic holidays such as Constitution Day, Presidents' Day, Veterans Day, and Independence Day.

K.1(B)
identify customs associated with national patriotic holidays such as parades and fireworks on Independence Day.

1st

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

2nd

2.1(A)
explain the significance of various community, state, and national celebrations such as Veterans Day, Memorial Day, Independence Day, and Thanksgiving.

Indian Ocean

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Indian Removal Act

8th

8.5(G)
explain the impact of the election of Andrew Jackson, including expanded suffrage.

individualism/self-reliance

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

USH

US.21(A)
discuss values crucial to America's success as a constitutional republic, including liberty, egalitarianism, individualism, populism, and laissez-faire.

industrialists

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

industrialization

4th

4.5(B)
explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

6th

6.6(A)
describe ways in which the factors of production (natural resources, labor, capital, and entrepreneurs) influence the economies of various contemporary societies

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

8th

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

8.14(B)
describe the characteristics and the benefits of the U.S. free enterprise system through 1877.

8.27(A)
explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts

8.28(B)
identify examples of how industrialization changed life in the United States.

Industrial Revolution

5th

5.4(B)
identify and explain how changes resulting from the Industrial Revolution led to conflict among sections of the United States

8th

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

8.14(B)
describe the characteristics and the benefits of the U.S. free enterprise system through 1877.

8.27(A)
explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts

8.28(B)
identify examples of how industrialization changed life in the United States.

World Geo

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

infant mortality rate

World Geo

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

infrastructure

World Geo

WG.8(A)
compare ways that humans depend on, adapt to, and modify the physical environment, including the influences of culture and technology

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.11(C)
assess how changes in climate, resources, and infrastructure (technology, transportation, and communication) affect the location and patterns of economic activities.

interchangeable parts

8th

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

8.14(B)
describe the characteristics and the benefits of the U.S. free enterprise system through 1877.

8.27(A)
explain the effects of technological and scientific innovations such as the steamboat, the cotton gin, the telegraph, and interchangeable parts

8.27(B)
analyze how technological innovations changed the way goods were manufactured and distributed, nationally and internationally.

8.28(A)
compare the effects of scientific discoveries and technological innovations that have influenced daily life in different periods in U.S. history.

8.28(B)
identify examples of how industrialization changed life in the United States.

internment camps

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

Interstate Commerce Act

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

intervention

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(E)
explain the causes, important events, and effects of the War of 1812

USH

US.4(A)
explain why significant events, policies, and individuals, including the Spanish-American War, U.S. expansionism, Alfred Thayer Mahan, Theodore Roosevelt, and Sanford B. Dole moved the United States into the position of a world power

Intolerable Acts

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

invasion of Normandy

USH

US.7(D)
analyze major military events of World War II, including fighting the war on multiple fronts, the Bataan Death March, the U.S. military advancement through the Pacific Islands, the Battle of Midway, the invasion of Normandy, and the liberation of concentration camps

Iran Contra affair

USH

US.10(B)
describe Ronald Reagan's leadership in domestic and international policies, including Reagan's economic policies and Peace Through Strength

US.10(C)
describe U.S. involvement in the Middle East such as support for Israel, the Camp David Accords, the Iran Hostage Crisis, Marines in Lebanon, and the Iran-Contra Affair

Iran Hostage Crisis

USH

US.10(C)
describe U.S. involvement in the Middle East such as support for Israel, the Camp David Accords, the Iran Hostage Crisis, Marines in Lebanon, and the Iran-Contra Affair

irrigation

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

Islam

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

6.17(B)
explain the significance of religious holidays and observances such as Christmas, Easter, Ramadan, the annual hajj, Yom Kippur, Rosh Hashanah, Diwali, and Vaisakhi in various contemporary societies.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

island

World Geo

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

isoline map

No TEKS assignments found for this visual.

isthmus

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Jamestown

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

Jim Crow laws

7th

7.16(A)
identify different points of view of political parties and interest groups on important Texas issues, past and present.

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.9(B)
explain how Jim Crow laws and the Ku Klux Klan created obstacles to civil rights for minorities such as the suppression of voting

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

job

K

K.6
Economics. The student understands the value of jobs. The student is expected to:

K.6(A)
identify jobs in the home, school, and community.

K.6(B)
explain why people have jobs.

1st

1.9(A)
describe the tools of various jobs and the characteristics of a job well performed.

1.9(B)
describe how various jobs contribute to the production of goods and services.

jobs

K

K.6
Economics. The student understands the value of jobs. The student is expected to:

K.6(A)
identify jobs in the home, school, and community.

K.6(B)
explain why people have jobs.

1st

1.9(A)
describe the tools of various jobs and the characteristics of a job well performed.

1.9(B)
describe how various jobs contribute to the production of goods and services.

José Antonio Navarro

K

K.2(A)
History. The student understands how historical figures helped shape the state and nation. The student is expected to identify contributions of historical figures, including Stephen F. Austin, George Washington, Christopher Columbus, and José Antonio Navarro, who helped to shape the state and nation.

Judaism

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

judicial branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Jumano

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

Juneteenth

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

7th

7.18(A)
explain how the diversity of Texas is reflected in a variety of cultural activities and celebrations

junta

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

K-Pop

6th

6.15(A)
identify and describe means of cultural diffusion such as trade, travel, and war

Kansas-Nebraska Act

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.7(D)
analyze the impact of slavery on different sections of the United States.

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

Karankawa

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

Khmer Rouge

6th

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

6.9(C)
identify and describe examples of human rights abuses by limited or unlimited governments such as the oppression of religious, ethnic, and political groups.

6.13(D)
identify and explain examples of conflict and cooperation between and among cultures.

World Geo

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.18(B)
assess causes and effects of conflicts between groups of people, including modern genocides and terrorism

Korean War

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

USH

US.8(C)
explain reasons and outcomes for U.S. involvement in the Korean War and its relationship to the containment policy

labor unions

7th

7.7(C)
describe and compare the impact of reform movements in Texas in the 19th and 20th centuries such as progressivism, populism, women's suffrage, agrarianism, labor reform, and the conservative movement of the late 20th century

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

laissez-faire

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

US.27(A)
analyze how scientific discoveries, technological innovations, space exploration, and the application of these by the free enterprise system improve the standard of living in the United States, including changes in transportation and communication.

lake

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

Lake Baikal

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

lake effect

World Geo

WG.
Description unavailable right now.

3(B)
Description unavailable right now.

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

landform

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

1st

1.5(A)
identify and describe the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

3rd

3.3(A)
describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

5th

5.6(B)
describe regions in the United States based on physical characteristics such as landform, climate, and vegetation

landmark

2nd

2.1(B)
identify and explain the significance of various community, state, and national landmarks such as monuments and government buildings.

4th

4.14(A)
explain the meaning of various patriotic symbols and landmarks of Texas, including the six flags that flew over Texas, the Alamo, and the San Jacinto Monument

5th

5.16
Citizenship. The student understands important symbols, customs, celebrations, and landmarks that represent American beliefs and principles that contribute to our national identity. The student is expected to:

5.16(C)
recite and explain the meaning of the Pledge of Allegiance to the United States Flag.

latitude

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.3(A)
explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

Law of April 6, 1830

7th

7.3(A)
describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

7.10(B)
describe how immigration and migration to Texas have influenced Texas

League of Nations

USH

US.4(F)
analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

legend

2nd

2.3(A)
identify and use information on maps and globes using basic map elements such as title, cardinal directions, and legend.

2.3(B)
create maps to show places and routes within the home, school, and community.

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

3rd

3.4(C)
identify, create, and interpret maps of places that contain map elements, including a title, compass rose, legend, scale, and grid system.

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

legislative branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

legislative branch/Congress

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

less developed country (LDC)

World Geo

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

Liberty Bell

1st

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

library

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

life expectancy

6th

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

limited government

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Lincoln's first inaugural address

8th

8.8(A)
explain the roles played by significant individuals during the Civil War, including Jefferson Davis, Ulysses S. Grant, Robert E. Lee, and Abraham Lincoln, and heroes such as congressional Medal of Honor recipients William Carney and Philip Bazaar

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.8(D)
analyze Abraham Lincoln's ideas about liberty, equality, union, and government as contained in his first and second inaugural addresses and the Gettysburg Address and contrast them with the ideas contained in Jefferson Davis's inaugural address.

literate/literacy

6th

6.8(B)
describe levels of economic development of various societies using indicators such as life expectancy, gross domestic product (GDP), GDP per capita, and literacy.

lithosphere

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(A)
explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Little Rock Crisis

USH

US.9(H)
explain how George Wallace, Orval Faubus, and the Congressional bloc of southern Democrats sought to maintain the status quo

locator map

No TEKS assignments found for this visual.

Long Expedition

7th

7.2(D)
identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

longitude

World Geo

WG.13(A)
interpret maps to explain the division of land, including man-made and natural borders, into separate political units such as cities, states, or countries.

Louisiana Purchase

5th

5.4(C)
identify significant events and concepts associated with U.S. territorial expansion, including the Louisiana Purchase, the expedition of Lewis and Clark, and Manifest Destiny

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

machine politics

USH

US.3(A)
analyze political issues such as Indian policies, the growth of political machines, and civil service reform

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.13(A)
analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

Malthusian theory

No TEKS assignments found for this visual.

Manhattan Project

USH

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

US.26(B)
explain how specific needs result in scientific discoveries and technological innovations in agriculture, the military, and medicine.

Manifest Destiny

4th

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

5th

5.4(C)
identify significant events and concepts associated with U.S. territorial expansion, including the Louisiana Purchase, the expedition of Lewis and Clark, and Manifest Destiny

7th

7.4(B)
analyze the causes of and events leading to Texas annexation such as security and public debt.

7.10(B)
describe how immigration and migration to Texas have influenced Texas

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.6(C)
explain the causes and effects of the U.S.-Mexican War and their impact on the United States.

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

map

K

K.3(C)
identify and use geographic tools that aid in determining location, including maps and globes.

K.14(D)
create and interpret visuals, including pictures and maps.

1st

1.4(A)
create and use simple maps such as maps of the home, classroom, school, and community.

1.4(B)
locate and explore the community, Texas, and the United States on maps and globes.

2nd

2.3(A)
identify and use information on maps and globes using basic map elements such as title, cardinal directions, and legend.

5th

5.6(C)
locate on a map important political features such as the five largest cities by population in the United States and the 50 states.

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

map elements

2nd

2.3(A)
identify and use information on maps and globes using basic map elements such as title, cardinal directions, and legend.

mapping elements

3rd

3.4(C)
identify, create, and interpret maps of places that contain map elements, including a title, compass rose, legend, scale, and grid system.

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

Marbury v. Madison

8th

8.18(A)
identify the origin of judicial review

8.18(B)
summarize the issues, decisions, and significance of landmark Supreme Court cases, including Marbury v. Madison, McCulloch v. Maryland, and Gibbons v. Ogden.

8.22(A)
analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

March on Washington

USH

US.9(D)
identify the roles of significant leaders who supported various rights movements, including Martin Luther King Jr., Cesar Chavez, Dolores Huerta, Rosa Parks, and Betty Friedan

US.9(F)
discuss the impact of the writings of Martin Luther King Jr., including his "I Have a Dream" speech and "Letter from Birmingham Jail" on the civil rights movement

Marshall Plan

USH

US.8(A)
describe U.S. responses to Soviet aggression after World War II, including the Truman Doctrine, the Marshall Plan, the Berlin Airlift, the North Atlantic Treaty Organization, and John F. Kennedy's role in the Cuban Missile Crisis

mass production

4th

4.10(A)
describe how the free enterprise system works, including supply and demand

4.18(B)
describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.

5th

5.12(D)
describe the impact of mass production, specialization, and division of labor on the economic growth of the United States.

Mayflower Compact

5th

5.13(B)
identify examples of representative government in the American colonies, including the Mayflower Compact and the Virginia House of Burgesses.

8th

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.3(B)
analyze the importance of the Mayflower Compact, the Fundamental Orders of Connecticut, and the Virginia House of Burgesses to the growth of representative government.

mayor

2nd

2.9(A)
name current public officials, including mayor, governor, and president

4th

4.15(E)
explain how to contact elected and appointed leaders in state and local governments.

4.15(C)
explain the duty of the individual in state and local elections such as being informed and voting

4.16(A)
identify leaders in state, local, and national governments, including the governor, local members of the Texas Legislature, the local mayor, U.S. senators, local U.S. representatives, and Texans who have been president of the United States.

McCarthyism

USH

US.8(B)
describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

McCulloch v Maryland

8th

8.18(B)
summarize the issues, decisions, and significance of landmark Supreme Court cases, including Marbury v. Madison, McCulloch v. Maryland, and Gibbons v. Ogden.

Mediterranean Sea

World Geo

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

mercantilism/mercantilist

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

Mexican independence

4th

4.3(E)

explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

7th

7.2(D)

identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

Mexico

2nd

2.4(B)

locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

Mier Expedition

7th

7.4(A)

identify individuals, events, and issues during the administrations of Republic of Texas Presidents Houston, Lamar, and Jones such as the Texas Navy, the Texas Rangers, Jack Coffee Hays, Chief Bowles, William Goyens, Mary Maverick, José Antonio Navarro, the Córdova Rebellion, the Council House Fight, the Santa Fe Expedition, slavery, and the roles of racial and ethnic groups

Mier y Terán report

7th

7.3(A)

describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

7.10(B)

describe how immigration and migration to Texas have influenced Texas

migration

4th

4.11(C)
identify the effects of exploration, immigration, migration, and limited resources on the economic development and growth of Texas.

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

World Geo

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

missions

4th

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(C)
explain when, where, and why the Spanish established settlements and Catholic missions in Texas as well as important individuals

Mission San Juan Bautista

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

7.18(C)
identify examples of Spanish influence and the influence of other cultures on Texas such as place names, vocabulary, religion, architecture, food, and the arts.

Missouri Compromise

8th

8.7(D)
analyze the impact of slavery on different sections of the United States.

8.21(C)
summarize historical events in which compromise resulted in a resolution such as the Missouri Compromise, Compromise of 1850, and Kansas-Nebraska Act.

mixed economy

World Geo

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

monarchy

4th

4.2(D)
identify Texas' role in the Mexican War of Independence and the war's impact on the development of Texas.

5th

5.13(A)
compare the systems of government of early European colonists, including representative government and monarchy.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

money

K

K.6(B)
explain why people have jobs.

monopoly/trust

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

monotheism/monotheistic

6th

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

Monroe Doctrine

8th

8.5

History. The student understands the challenges confronted by the government and its leaders in the early years of the republic and the Age of Jackson. The student is expected to:

(F)

Description unavailable right now.

8.5(E)

explain the causes, important events, and effects of the War of 1812

monument

2nd

2.1(B)

identify and explain the significance of various community, state, and national landmarks such as monuments and government buildings.

more developed country (MDC)

World Geo

WG.5(B)

interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

Morrill Act

8th

8.9(D)

History. The student understands the effects of Reconstruction on the political, economic, and social life of the nation. The student is expected to:

(2011

Description unavailable right now.

TEKS)

Description unavailable right now.

mountains

3rd

3.3(A)

describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

3.3(B)

identify and compare how people in different communities adapt to or modify the physical environment in which they live such as deserts, mountains, wetlands, and plains.

4th

4.6(A)

identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.6(B)

compare the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains).

muckrakers

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.5(A)
analyze the impact of Progressive Era reforms, including initiative, referendum, recall, and the passage of the 16th, 17th, 18th, and 19th amendments

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.25(D)
identify the contributions of women such as Rosa Parks, Eleanor Roosevelt, and Sonia Sotomayor to American society.

multicultural

6th

6.13(B)
define a multicultural society

World Geo

WG.17(D)
evaluate the experiences and contributions of diverse groups to multicultural societies.

multicultural/multiculturalism

6th

6.13(B)
define a multicultural society

World Geo

WG.17(D)
evaluate the experiences and contributions of diverse groups to multicultural societies.

Nacogdoches

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

nation

1st

1.11(B)
identify and describe the roles of public officials in the community, state, and nation.

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

1.2(A)
identify contributions of historical figures, including Sam Houston, George Washington, Abraham Lincoln, and Martin Luther King Jr., who have influenced the state and nation.

3rd

3.7(A)
describe the basic structure of government in the local community, state, and nation

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

nation-state

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

National Association for the Advancement of Colored People (NAACP)

7th

7.7(D)
describe and compare the civil rights and equal rights movements of various groups in Texas in the 20th century and identify key leaders in these movements such as James L. Farmer Jr., Hector P. Garcia, Oveta Culp Hobby, Lyndon B. Johnson, the League of United Latin American Citizens (LULAC), Jane McCallum, and Lulu Belle Madison White.

USH

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

National Parks Service

USH

US.14(B)
identify the roles of governmental entities and private citizens in managing the environment such as the establishment of the National Park System, the Environmental Protection Agency (EPA), and the Endangered Species Act.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

Nation of Islam

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(C)
describe the roles of political organizations that promoted African American, Chicano, American Indian, and women's civil rights

US.9(D)
identify the roles of significant leaders who supported various rights movements, including Martin Luther King Jr., Cesar Chavez, Dolores Huerta, Rosa Parks, and Betty Friedan

US.9(E)
compare and contrast the approach taken by the Black Panthers with the nonviolent approach of Martin Luther King Jr.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

nativist/nativism

8th

8.23(B)
explain how urbanization contributed to conflicts resulting from differences in religion, social class, and political beliefs

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.6(A)
analyze causes and effects of events and social issues such as immigration, Social Darwinism, the Scopes Trial, eugenics, race relations, nativism, the Red Scare, Prohibition, and the changing role of women.

US.13(B)
analyze the causes and effects of changing demographic patterns resulting from immigration to the United States.

US.15(C)
explain how foreign policies affected economic issues such as the Chinese Exclusion Act of 1882, the Open Door Policy, Dollar Diplomacy, and immigration quotas.

natural disaster/hazard

3rd

3.3(A)
describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

natural increase rate

No TEKS assignments found for this visual.

natural resources

2nd

2.7(C)
trace the development of a product from a natural resource to a finished product.

4th

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

needs

K

K.5
Economics. The student understands the difference between human needs and wants and how they are met. The student is expected to:

K.5(A)
identify basic human needs of food, clothing, and shelter

K.5(B)
explain the difference between needs and wants.

K.5(C)
explain how basic human needs and wants can be met.

K.12(B)
describe how technology helps accomplish specific tasks and meet people's needs.

1st

1.6(B)
describe similarities and differences in ways families meet basic human needs.

1.8(A)
identify examples of people wanting more than they can have

3rd

3.1(A)
describe how individuals, events, and ideas have changed communities, past and present

4th

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.9(A)
explain the economic activities various early American Indian groups in Texas used to meet their needs and wants such as farming, trading, and hunting.

4.9(B)
explain the economic activities early settlers to Texas used to meet their needs and wants.

Neolithic revolution

No TEKS assignments found for this visual.

neutrality

USH

US.4(C)
identify the causes of World War I and reasons for U.S. entry

US.4(F)
analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

New Deal

7th

7.7(E)

analyze the political, economic, and social impact of World War I, the Great Depression, World War II, and significant issues in the latter half of the 20th and early 21st centuries such as political and economic controversies, immigration, and migration on the history of Texas.

USH

US.16(D)

compare the New Deal policies and its opponents' approaches to resolving the economic effects of the Great Depression.

US.18(A)

evaluate the impact of New Deal legislation on the historical roles of state and federal government

New Jersey Plan

8th

8.4(D)

analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

newly industrialized countries

World Geo

WG.5(B)

interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

WG.11(B)

identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.11(C)

assess how changes in climate, resources, and infrastructure (technology, transportation, and communication) affect the location and patterns of economic activities.

Niagara Movement

USH

US.5(B)

evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.25(A)

explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

Nile River

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.7(B)
explain how physical geography and push and pull forces, including political, economic, social, and environmental conditions, affect the routes and flows of human migration

nomad/nomadic

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

6th

6.5(B)
identify and analyze ways people have adapted to the physical environment in various places and regions.

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

North America

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

North American Free Trade Agreement (NAFTA)

USH

US.17(E)
describe the dynamic relationship between U.S. international trade policies and the U.S. free enterprise system such as the Organization of Petroleum Exporting Countries (OPEC) oil embargo, the General Agreement on Tariffs and Trade (GATT), and the North American Free Trade Agreement (NAFTA).

Northwest Ordinance

8th

8.6(A)
explain how the Northwest Ordinance established principles and procedures for orderly expansion of the United States

Nullification Crisis

8th

8.7(A)
analyze the impact of tariff policies on sections of the United States before the Civil War

8.7(D)
analyze the impact of slavery on different sections of the United States.

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

8.17(B)
explain constitutional issues arising over the issue of states' rights, including the Nullification Crisis and the Civil War.

ocean

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

ocean currents

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG.12(B)
evaluate the geographic and economic impact of policies related to the development, use, and scarcity of natural resources such as regulations of water.

oil

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

oil and gas industry

4th

4.5(B)
explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.

4.10(A)
describe how the free enterprise system works, including supply and demand

4.18(B)
describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

Old Three Hundred

7th

7.10(A)
identify why immigrant groups came to Texas and where they settled

OPEC

World Geo

WG.7(D)
analyze how globalization affects connectivity, standard of living, pandemics, and loss of local culture.

WG.8(C)
evaluate the economic and political relationships between settlements and the environment, including sustainable development and renewable/non-renewable resources.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG12.(B)
Description unavailable right now.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

Open Door policy

USH

US.15(C)
explain how foreign policies affected economic issues such as the Chinese Exclusion Act of 1882, the Open Door Policy, Dollar Diplomacy, and immigration quotas.

order

K

K.7(B)
identify rules that provide order, security, and safety in the home and school.

1st

1.10(B)
identify rules and laws that establish order, provide security, and manage conflict.

2nd

2.8(A)
identify functions of governments such as establishing order, providing security, and managing conflict.

Oregon Trail

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

Outback

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.7(B)
explain how physical geography and push and pull forces, including political, economic, social, and environmental conditions, affect the routes and flows of human migration

Pacific Ocean

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Palmer Raids

USH

US.6(A)
analyze causes and effects of events and social issues such as immigration, Social Darwinism, the Scopes Trial, eugenics, race relations, nativism, the Red Scare, Prohibition, and the changing role of women.

Panama Canal

World Geo

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

WG.11(C)
assess how changes in climate, resources, and infrastructure (technology, transportation, and communication) affect the location and patterns of economic activities.

WG.21(B)
identify places of contemporary geopolitical significance on a map

USH

US.4(A)
explain why significant events, policies, and individuals, including the Spanish-American War, U.S. expansionism, Alfred Thayer Mahan, Theodore Roosevelt, and Sanford B. Dole moved the United States into the position of a world power

US.12(A)
Geography. The student understands the impact of geographic factors on major events. The student is expected to analyze the impact of physical and human geographic factors on the Klondike Gold Rush, the Panama Canal, the Dust Bowl, and the levee failure in New Orleans after Hurricane Katrina.

US.15(C)
explain how foreign policies affected economic issues such as the Chinese Exclusion Act of 1882, the Open Door Policy, Dollar Diplomacy, and immigration quotas.

US.30(B)
pose and answer questions about geographic distributions and patterns shown on maps, graphs, charts, and available databases.

pandemic diseases

6th

6.6(B)
identify problems that may arise when one or more of the factors of production is in relatively short supply.

World Geo

WG.7(D)
analyze how globalization affects connectivity, standard of living, pandemics, and loss of local culture.

Panic of 1837

8th

8.5(B)
explain the effects of the Fugitive Slave Act of 1793

park

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

Parliament

6th

6.9(A)

describe and compare examples of limited and unlimited governments such as constitutional (limited) and totalitarian (unlimited)

8th

8.4(A)

analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

parliamentary democracy

World Geo

WG.23(A)

explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

parliamentary government

6th

6.11(B)

explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

peninsula

6th

6.4(B)

identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

World Geo

WG.4(B)

describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Persian Gulf War

World Geo

WG.14(B)

compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

USH

US.11(A)

describe U.S. involvement in world affairs, including the end of the Cold War, the Persian Gulf War, the events surrounding September 11, 2001, and the global War on Terror

physical characteristics of place

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

1st

1.5(A)
identify and describe the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

physical environment

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

2.5(B)
identify consequences of human modification of the physical environment.

3rd

3.3(A)
describe similarities and differences in the physical environment, including climate, landforms, natural resources, and natural hazards

World Geo

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

physical geography

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

6.20(D)
create and interpret regional sketch maps, thematic maps, graphs, and charts depicting aspects such as population, disease, and economic activities of various world regions and countries.

World Geo

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

physical map

5th

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

physical map

5th

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

physical regions

4th

4.6(A)
identify, locate, and describe the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), including their characteristics such as landforms, climate, vegetation, and economic activities.

4.6(B)
compare the physical regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains).

Plains peoples

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

plantation

5th

5.11(B)
evaluate the effects of supply and demand on industry and agriculture, including the plantation system, in the United States.

8th

8.7(B)
compare the effects of political, economic, and social factors on slaves and free Blacks

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

Plessy v. Ferguson

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.20(A)
analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

Plymouth

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

police protection

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

political geography

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

World Geo

WG.5(B)
interpret political, economic, social, and demographic indicators (gross domestic product per capita, life expectancy, literacy, and infant mortality) to determine the level of development and standard of living in nations using the levels as defined by the Human Development Index.

WG.21(C)
create and interpret different types of maps to answer geographic questions, infer relationships, and analyze change

political map

No TEKS assignments found for this visual.

political parties

5th

5.18(A)
identify past and present leaders in the national government, including the president and various members of Congress, and their political parties.

7th

7.4(C)
identify individuals, events, and issues during early Texas statehood, including the U.S.-Mexican War, the Treaty of Guadalupe-Hidalgo, slavery, and the Compromise of 1850.

7.16(A)
identify different points of view of political parties and interest groups on important Texas issues, past and present.

8th

8.5(C)
summarize arguments regarding protective tariffs, taxation, and the banking system

8.21(A)
identify different points of view of political parties and interest groups on important historical issues

popular sovereignty

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.7(D)
analyze the impact of slavery on different sections of the United States.

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

population

4th

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

World Geo

WG.
Description unavailable right now.

7
Description unavailable right now.

(C)
Description unavailable right now.

population density

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

7th

7.10(D)
analyze the effects of the changing population distribution and growth in Texas and the additional need for education, health care, and transportation.

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.7(C)
describe trends in world population growth and distribution.

population distribution

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

4.20(B)
interpret geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

5th

5.24(B)
interpret geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

World Geo

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

population pyramid

World Geo

WG.7(A)
analyze population pyramids and use other data, graphics, and maps to describe the population characteristics of different societies and to predict future population trends

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

Populist/People's Party

USH

US.5(C)
analyze the impact of third parties, including the Populist and Progressive parties.

precipitation

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

president

2nd

2.9(A)
name current public officials, including mayor, governor, and president

2.9(B)
compare the roles of public officials, including mayor, governor, and president

president/vice president

4th

4.16(A)
identify leaders in state, local, and national governments, including the governor, local members of the Texas Legislature, the local mayor, U.S. senators, local U.S. representatives, and Texans who have been president of the United States.

5th

5.18(A)
identify past and present leaders in the national government, including the president and various members of Congress, and their political parties.

5.5(B)
analyze various issues and events of the 21st century such as the War on Terror and the 2008 presidential election.

8th

8.14(D)
Economics. The student understands the origins and development of the free enterprise system in the United States. The student is expected to:

Presidents' Day

K

K.1(A)
identify national patriotic holidays such as Constitution Day, Presidents' Day, Veterans Day, and Independence Day.

presidio

4th

4.2(C)
explain when, where, and why the Spanish established settlements and Catholic missions in Texas as well as important individuals

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

7.18(C)
identify examples of Spanish influence and the influence of other cultures on Texas such as place names, vocabulary, religion, architecture, food, and the arts.

private property

USH

US.3(A)

analyze political issues such as Indian policies, the growth of political machines, and civil service reform

Proclamation of 1763

5th

5.2(A)

analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

8th

8.4(A)

analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(B)

explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

profit/profitability

3rd

3.6(C)

explain how the cost of production and selling price affect profits.

8th

8.12(B)

explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

Progressives

USH

US.5(C)

analyze the impact of third parties, including the Populist and Progressive parties.

Prohibition

USH

US.5(A)

analyze the impact of Progressive Era reforms, including initiative, referendum, recall, and the passage of the 16th, 17th, 18th, and 19th amendments

proportional symbol map

No TEKS assignments found for this visual.

prosperity

7th

7.7(A)
explain how the oil industry led to the industrialization of Texas

7.12(C)
analyze the impact of significant industries in Texas such as aerospace, medical, and computer technologies on local, national, and international markets

USH

US.17(B)
identify the causes of prosperity in the 1950s, including the Baby Boom and the impact of the GI Bill (Servicemen's Readjustment Act of 1944), and the effects of prosperity in the 1950s such as increased consumption and the growth of agriculture and business

public debt

7th

7.4(A)
identify individuals, events, and issues during the administrations of Republic of Texas Presidents Houston, Lamar, and Jones such as the Texas Navy, the Texas Rangers, Jack Coffee Hays, Chief Bowles, William Goyens, Mary Maverick, José Antonio Navarro, the Córdova Rebellion, the Council House Fight, the Santa Fe Expedition, slavery, and the roles of racial and ethnic groups

7.4(B)
analyze the causes of and events leading to Texas annexation such as security and public debt.

Puebloan peoples

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

Pure Food and Drug Act

USH

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.14(B)
identify the roles of governmental entities and private citizens in managing the environment such as the establishment of the National Park System, the Environmental Protection Agency (EPA), and the Endangered Species Act.

push/pull factor

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.3(B)
explain ways in which human migration influences the character of places and regions

7th

7.10(A)
identify why immigrant groups came to Texas and where they settled

7.10(B)
describe how immigration and migration to Texas have influenced Texas

8th

8.23(A)
identify racial, ethnic, and religious groups that settled in the United States and explain their reasons for immigration

railroad industry

4th

4.4(C)
explain the effects of the railroad industry on life in Texas, including changes to cities and major industries.

4.10(C)
describe the development of the free enterprise system in Texas such as the growth of cash crops by early colonists and the railroad boom.

4.11(D)
explain how developments in transportation and communication have influenced economic activities in Texas.

rainforest

6th

6.4(B)
identify geographic factors such as location, physical features, transportation corridors and barriers, and distribution of natural resources that influence a society's political relationships.

rainy

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

ratify/ratification

5th

5.3(A)
History. The student understands the significant individuals who contributed to the creation of the U.S. Constitution and the government it established. The student is expected to identify the contributions of Founding Fathers James Madison and George Mason who helped create the U.S. Constitution.

8th

8.4(D)
analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

USH

US.22(A)
identify and analyze methods of expanding the right to participate in the democratic process, including lobbying, non-violent protesting, litigation, and amendments to the U.S. Constitution

US.20(B)
explain why landmark constitutional amendments have been proposed and ratified from 1877 to the present.

US.22(B)
evaluate various means of achieving equality of political rights, including the 19th, 24th, and 26th amendments and congressional acts such as the American Indian Citizenship Act of 1924

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

Reaganomics

USH

US.10(B)
describe Ronald Reagan's leadership in domestic and international policies, including Reagan's economic policies and Peace Through Strength

Red River War

4th

4.4(D)
explain the effects on American Indian life brought about by the Red River War, building of U.S. forts and railroads, and loss of buffalo.

Red Scare

USH

US.6(A)
analyze causes and effects of events and social issues such as immigration, Social Darwinism, the Scopes Trial, eugenics, race relations, nativism, the Red Scare, Prohibition, and the changing role of women.

US.15(D)
describe the economic effects of international military conflicts, including the Spanish-American War and World War I, on the United States.

US.8(B)
describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

reference map

No TEKS assignments found for this visual.

reform

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.24(B)
evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.5(B)
evaluate the impact of muckrakers and reform leaders such as Upton Sinclair, Susan B. Anthony, Jane Addams, Ida B. Wells, and W. E. B. DuBois on American society.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

refugee

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

6.3(B)
explain ways in which human migration influences the character of places and regions

relative distance

No TEKS assignments found for this visual.

relative location

K

K.3(A)
use spatial terms, including over, under, near, far, left, and right, to describe relative location

K.3(B)
locate places on the school campus and describe their relative locations.

1st

1.3(A)
describe the location of self and objects relative to other locations in the classroom and school using spatial terms.

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

relative location

K

K.3(A)
use spatial terms, including over, under, near, far, left, and right, to describe relative location

K.3(B)
locate places on the school campus and describe their relative locations.

1st

1.3(A)
describe the location of self and objects relative to other locations in the classroom and school using spatial terms.

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

religious freedom

5th

5.1(A)
explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

5.1(B)
describe the accomplishments of significant individuals who settled for religious freedom and economic gain during the colonial period, including William Bradford, Anne Hutchinson, William Penn, John Smith, and Roger Williams.

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.3(A)
explain the reasons for the growth of representative government and institutions during the colonial period

religious freedom/tolerance

5th

5.1(A)
explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

5.1(B)
describe the accomplishments of significant individuals who settled for religious freedom and economic gain during the colonial period, including William Bradford, Anne Hutchinson, William Penn, John Smith, and Roger Williams.

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.3(A)
explain the reasons for the growth of representative government and institutions during the colonial period

religious groups

5th

5.21
Culture. The student understands the contributions of people of various racial, ethnic, and religious groups to the United States culture. The student is expected to:

5.21(A)
describe customs and traditions of various racial, ethnic, and religious groups in the United States.

5.21(B)
summarize the contributions of people of various racial, ethnic, and religious groups to our national identity.

religious minorities

World Geo

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.17(C)
compare economic, political, or social opportunities in different cultures for underrepresented populations such as women and ethnic and religious minorities.

religious persecution

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.3(A)
explain the reasons for the growth of representative government and institutions during the colonial period

remote sensing

No TEKS assignments found for this visual.

renewable resources

World Geo

WG.8(C)

evaluate the economic and political relationships between settlements and the environment, including sustainable development and renewable/non-renewable resources.

replenish

2nd

2.5(C)

identify ways people can conserve and replenish Earth's resources.

representation

8th

8.3(A)

explain the reasons for the growth of representative government and institutions during the colonial period

8.4(A)

analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

representative government

5th

5.13(A)

compare the systems of government of early European colonists, including representative government and monarchy.

5.13(B)

identify examples of representative government in the American colonies, including the Mayflower Compact and the Virginia House of Burgesses.

8th

8.15(D)

analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

republic

4th

4.3
History. The student understands the importance of the Texas Revolution, the Republic of Texas, and the annexation of Texas to the United States. The student is expected to:

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

7th

7.13(A)
identify how the Texas Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

8th

8.15(B)
summarize the strengths and weaknesses of the Articles of Confederation

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

Republican Army of the North

7th

7.2(D)
identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

resettlement/relocation

8th

8.5(G)
explain the impact of the election of Andrew Jackson, including expanded suffrage.

Ring of Fire

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(C)
describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

river

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

road map

No TEKS assignments found for this visual.

robber barons

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.15(A)
describe how the economic impact of the Transcontinental Railroad and the Homestead Act contributed to the close of the frontier in the late 19th century

Rocky Mountains

5th

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

Roosevelt Corollary

USH

US.4(A)
explain why significant events, policies, and individuals, including the Spanish-American War, U.S. expansionism, Alfred Thayer Mahan, Theodore Roosevelt, and Sanford B. Dole moved the United States into the position of a world power

US.12(A)
Geography. The student understands the impact of geographic factors on major events. The student is expected to analyze the impact of physical and human geographic factors on the Klondike Gold Rush, the Panama Canal, the Dust Bowl, and the levee failure in New Orleans after Hurricane Katrina.

US.15(C)
explain how foreign policies affected economic issues such as the Chinese Exclusion Act of 1882, the Open Door Policy, Dollar Diplomacy, and immigration quotas.

US.30(B)
pose and answer questions about geographic distributions and patterns shown on maps, graphs, charts, and available databases.

rules

K

K.7
Government. The student understands the purpose of rules. The student is expected to:

K.7(A)
identify purposes for having rules.

K.7(B)
identify rules that provide order, security, and safety in the home and school.

K.8(B)
explain how authority figures enforce rules.

Runaway Scrape

4th

4.3(A)

analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto

4.3(B)

summarize the significant contributions of individuals such as William B. Travis, James Bowie, David Crockett, Juan N. Seguín, Plácido Benavides, José Francisco Ruiz, Antonio López de Santa Anna, Susanna Dickinson, and Enrique Esparza

4.19(C)

analyze information by applying absolute and relative chronology through sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions

rural

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

4th

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

5th

5.7(A)
identify and describe the patterns of settlement such as rural, urban, and suburban

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

6.5(B)
identify and analyze ways people have adapted to the physical environment in various places and regions.

7th

7.10(D)
analyze the effects of the changing population distribution and growth in Texas and the additional need for education, health care, and transportation.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

safety

K

K.7(B)
identify rules that provide order, security, and safety in the home and school.

Sahara Desert

6th

6.3(C)
identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.20(D)
create and interpret regional sketch maps, thematic maps, graphs, and charts depicting aspects such as population, disease, and economic activities of various world regions and countries.

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.7(B)
explain how physical geography and push and pull forces, including political, economic, social, and environmental conditions, affect the routes and flows of human migration

Sahel

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

San Antonio settlement

4th

4.2(A)
summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(C)
explain when, where, and why the Spanish established settlements and Catholic missions in Texas as well as important individuals

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

San Francisco de los Tejas

7th

7.2(C)
identify important individuals, events, and issues related to European colonization of Texas, including the establishment of Catholic missions, towns, and ranches, and the contributions of individuals such as Fray Damián Massanet, Antonio Margil de Jesús, and Francisco Hidalgo

7.18(C)
identify examples of Spanish influence and the influence of other cultures on Texas such as place names, vocabulary, religion, architecture, food, and the arts.

saving

1st

1.8(A)
identify examples of people wanting more than they can have

2nd

2.6(B)
explain the choices people can make about earning, spending, and saving money.

3rd

3.5(A)
identify ways of earning, spending, saving, and donating money.

scale

4th

4.20(A)
apply mapping elements, including grid systems, legends, symbols, scales, and compass roses, to create and interpret maps.

Scandinavia

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

school

1st

1.3(A)
describe the location of self and objects relative to other locations in the classroom and school using spatial terms.

1.4(A)
create and use simple maps such as maps of the home, classroom, school, and community.

1.11(A)
identify the responsibilities of authority figures in the home, school, and community.

2nd

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

seasons

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

secede/secession

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.14(C)
recite and explain the meaning of the Pledge to the Texas Flag.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.8(C)
explain significant events of the Civil War, including the firing on Fort Sumter; the battles of Antietam, Gettysburg, and Vicksburg; the Emancipation Proclamation; Lee's surrender at Appomattox Court House; and the assassination of Abraham Lincoln.

Second Agricultural Revolution

No TEKS assignments found for this visual.

Second Great Awakening

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.25(B)
describe religious influences on social movements, including the impact of the first and second Great Awakenings.

sectionalism

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

8th

8.1(A)
identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.10(B)
compare places and regions of the United States in terms of physical and human characteristics.

security

K

K.7(B)
identify rules that provide order, security, and safety in the home and school.

1st

1.10(B)
identify rules and laws that establish order, provide security, and manage conflict.

2nd

2.8(A)
identify functions of governments such as establishing order, providing security, and managing conflict.

3rd

3.2(A)
identify reasons people have formed communities, including a need for security and laws, religious freedom, and material well-being.

segregation/integration

7th

7.7(D)
describe and compare the civil rights and equal rights movements of various groups in Texas in the 20th century and identify key leaders in these movements such as James L. Farmer Jr., Hector P. Garcia, Oveta Culp Hobby, Lyndon B. Johnson, the League of United Latin American Citizens (LULAC), Jane McCallum, and Lulu Belle Madison White.

USH

US.9(A)
trace the historical development of the civil rights movement from the late 1800s through the 21st century, including the 13th, 14th, 15th, and 19th amendments

US.9(B)
explain how Jim Crow laws and the Ku Klux Klan created obstacles to civil rights for minorities such as the suppression of voting

US.9(G)
describe presidential actions and congressional votes to address minority rights in the United States, including desegregation of the armed forces, the Civil Rights Act of 1964, and the Voting Rights Act of 1965

US.9(J
Description unavailable right now.

US.20(A)
analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

Selective Service Act

USH

US.4(F)
analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

US.18(B)
explain constitutional issues raised by federal government policy changes during times of significant events, including World War I, the Great Depression, World War II, the 1960s, and September 11, 2001

Seneca Falls Convention

8th

8.22(B)
describe the contributions of significant political, social, and military leaders of the United States such as Frederick Douglass, John Paul Jones, Susan B. Anthony, and Elizabeth Cady Stanton.

8.23(E)
identify the political, social, and economic contributions of women to American society.

8.24(B)
evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

services

1st

1.7(A)
identify examples of goods and services in the home, school, and community

1.7(B)
identify ways people exchange goods and services.

1.7(C)
identify the role of markets in the exchange of goods and services.

1.9(B)
describe how various jobs contribute to the production of goods and services.

3rd

3.7(C)
identify services commonly provided by local, state, and national governments.

6th

6.8(A)
define and give examples of agricultural, retail, manufacturing (goods), and service industries.

settlement

4th

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

5th

5.4(F)
identify the challenges, opportunities, and contributions of people from various American Indian and immigrant groups such as the settlement of the frontier and building of the Transcontinental Railroad.

5.7
Geography. The student understands the location and patterns of settlement and the geographic factors that influence where people live. The student is expected to:

5.7(A)
identify and describe the patterns of settlement such as rural, urban, and suburban

5.7(B)
explain the geographic factors that influence patterns of settlement and the distribution of population in the United States.

settlement houses

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

US.25(D)
identify the contributions of women such as Rosa Parks, Eleanor Roosevelt, and Sonia Sotomayor to American society.

settlement pattern

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

seven continents

No TEKS assignments found for this visual.

sharecropping

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.11(A)
identify how people in different regions of Texas earn their living, past and present

8th

8.9(C)
explain the economic, political, and social problems during Reconstruction and evaluate their impact on different groups.

shelter

K

K.4(B)
identify how geographic location influences human characteristics of place such as shelter, clothing, food, and activities.

K.5(A)
identify basic human needs of food, clothing, and shelter

1st

1.5(B)
identify and describe how geographic location influences the human characteristics of place such as shelter, clothing, food, and activities.

Sherman Antitrust Act

USH

US.3(B)
analyze economic issues such as industrialization, the growth of railroads, the growth of labor unions, farm issues, the cattle industry boom, the growth of entrepreneurship, and the pros and cons of big business.

US.15(B)
describe the changing relationship between the federal government and private business, including the growth of free enterprise, costs and benefits of laissez-faire, Sherman Antitrust Act, Interstate Commerce Act, and Pure Food and Drug Act

Shinto

World Geo

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.16(A)
describe distinctive cultural patterns and landscapes associated with different places in Texas, the United States, and other regions of the world and how these patterns influenced the processes of innovation and diffusion

WG16.(B)
Description unavailable right now.

WG.17(A)
describe and compare patterns of culture such as language, religion, land use, education, and customs that make specific regions of the world distinctive

WG.17(B)
describe central ideas and spatial distribution of major religious traditions, including Buddhism, Christianity, Hinduism, Islam, Judaism, and Sikhism

WG.18(D)
evaluate the spread of cultural traits to find examples of cultural convergence and divergence such as the spread of democratic ideas, language, foods, technology, or global sports.

Siberia

World Geo

WG.
Description unavailable right now.

2(A)
Description unavailable right now.

WG.2(B)
explain how changes in societies such as population shifts, technological advancements, and environmental policies have led to diverse uses of physical features over time such as terrace farming, dams, and polders.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.4(C)
explain the influence of climate on the distribution of biomes in different regions.

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.7(B)
explain how physical geography and push and pull forces, including political, economic, social, and environmental conditions, affect the routes and flows of human migration

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

siege of San Antonio de Béxar

7th

7.3(B)
explain the roles played by significant individuals during the Texas Revolution, including George Childress, Lorenzo de Zavala, James Fannin, Sam Houston, Antonio López de Santa Anna, Juan N. Seguín, and William B. Travis.

7.3(C)
explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

7.13(B)
compare the principles and concepts of the Texas Constitution to the U.S. Constitution, including the Texas and U.S. Bill of Rights.

sinking of the Lusitania

USH

US.4(C)

identify the causes of World War I and reasons for U.S. entry

six flags of Texas

4th

4.2

History. The student understands the causes and effects of European exploration and colonization of Texas. The student is expected to:

slash-and-burn

6th

6.5(A)

describe ways people have been impacted by physical processes such as earthquakes and climate

6.5(B)

identify and analyze ways people have adapted to the physical environment in various places and regions.

World Geo

WG.10(C)

compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

slavery

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.8(B)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

Smoot-Hawley tariff

USH

US.16(B)
identify the causes of the Great Depression, including the impact of tariffs on world trade, stock market speculation, bank failures, and the monetary policy of the Federal Reserve System

Social Darwinism

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.23(A)
evaluate the contributions of significant political and social leaders in the United States such as Andrew Carnegie, Thurgood Marshall, Billy Graham, Sandra Day O'Connor, and Hillary Clinton.

US.25(A)
explain actions taken by people to expand economic opportunities and political rights for racial, ethnic, gender, and religious groups in American society

Social Security Act of 1935

USH

US.16(D)
compare the New Deal policies and its opponents' approaches to resolving the economic effects of the Great Depression.

US.16(E)
describe how various New Deal agencies and programs, including the Federal Deposit Insurance Corporation, the Securities and Exchange Commission, and the Social Security Administration, continue to affect the lives of U.S. citizens.

US.18(A)
evaluate the impact of New Deal legislation on the historical roles of state and federal government

Sons of Liberty

5th

5.2(B)
identify the Founding Fathers and Patriot heroes, including John Adams, Benjamin Franklin, Thomas Jefferson, the Sons of Liberty, and George Washington, and their motivations and contributions during the revolutionary period.

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

South America

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

Southeastern/Caddo peoples

4th

4.1(B)
identify and compare the ways of life of American Indian groups in Texas before European exploration such as the Lipan Apache, Karankawa, Caddo, and Jumano

4.12(A)
compare how various American Indian groups such as the Caddo and the Comanche governed themselves.

4.8(B)
explain reasons why people have adapted to and modified their environment in Texas, past and present, such as the use of natural resources to meet basic needs, facilitate transportation, and enhance recreational activities.

4.1(C)
describe the cultural regions in which American Indians lived such as Gulf, Plains, Puebloan, and Southeastern.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

7th

7.2(A)
compare the cultures of American Indians in Texas prior to European colonization such as Gulf, Plains, Puebloan, and Southeastern

Southern Ocean

2nd

2.4(A)
identify major landforms and bodies of water, including each of the seven continents and each of the oceans, on maps and globes.

sovereignty

World Geo

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

space program

5th

5.22(B)
identify how scientific discoveries, technological innovations, and the rapid growth of technology industries have advanced the economic development of the United States, including the transcontinental railroad and the space program.

Spanish-American War

USH

US.2(B)

explain the significance of the following years as turning points: 1898 (Spanish-American War), 1914-1918 (World War I), 1929 (the Great Depression begins), 1939-1945 (World War II), 1957 (Sputnik launch ignites U.S.-Soviet space race), 1968 (Martin Luther King Jr. assassination), 1969 (U.S. lands on the moon), 1991 (Cold War ends), 2001 (terrorist attacks on World Trade Center and the Pentagon), and 2008 (election of first black president, Barack Obama).

US.4(A)

explain why significant events, policies, and individuals, including the Spanish-American War, U.S. expansionism, Alfred Thayer Mahan, Theodore Roosevelt, and Sanford B. Dole moved the United States into the position of a world power

Spanish exploration

4th

4.2(A)

summarize motivations for European exploration and settlement of Texas, including economic opportunity, competition, and the desire for expansion

4.2(B)

identify the accomplishments and explain the impact of significant explorers, including Cabeza de Vaca; Francisco Coronado; and René Robert Cavelier, Sieur de la Salle, on the settlement of Texas

4.2(C)

explain when, where, and why the Spanish established settlements and Catholic missions in Texas as well as important individuals

7th

7.1(A)

identify the major eras in Texas history, describe their defining characteristics, and explain the purpose of dividing the past into eras, including Natural Texas and its People; Age of Contact; Spanish Colonial; Mexican National; Revolution and Republic; Early Statehood; Texas in the Civil War and Reconstruction; Cotton, Cattle, and Railroads; Age of Oil; Texas in the Great Depression and World War II; Civil Rights; and Contemporary Texas.

7.2(B)

identify important individuals, events, and issues related to European exploration of Texas such as Alonso Álvarez de Pineda, Álvar Núñez Cabeza de Vaca, the search for gold, and the conflicting territorial claims between France and Spain

sparse population

4th

4.7(A)

explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.7(B)

identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

speculation

USH

US.16(B)

identify the causes of the Great Depression, including the impact of tariffs on world trade, stock market speculation, bank failures, and the monetary policy of the Federal Reserve System

spending

1st

1.8(A)
identify examples of people wanting more than they can have

2nd

2.6(B)
explain the choices people can make about earning, spending, and saving money.

3rd

3.5(A)
identify ways of earning, spending, saving, and donating money.

Spindletop

4th

4.5(B)
explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.

4.18(B)
describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.

4.11(B)
explain how physical geographic factors such as climate and natural resources have influenced the location of economic activities in Texas

4.10(A)
describe how the free enterprise system works, including supply and demand

7th

7.27(A)
Description unavailable right now.

7.8(C)
analyze the effects of physical and human factors such as climate, weather, landforms, irrigation, transportation, and communication on major events in Texas.

7.11(A)
explain economic factors and the development of major industries that led to the urbanization of Texas such as transportation, oil and gas, and manufacturing.

7.12(C)
analyze the impact of significant industries in Texas such as aerospace, medical, and computer technologies on local, national, and international markets

7.19(D)
evaluate the effects of scientific discoveries and technological innovations on the use of resources such as fossil fuels, water, and land.

Stamp Act

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

state

1st

1.11(B)
identify and describe the roles of public officials in the community, state, and nation.

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

1.2(A)
identify contributions of historical figures, including Sam Houston, George Washington, Abraham Lincoln, and Martin Luther King Jr., who have influenced the state and nation.

3rd

3.7(A)
describe the basic structure of government in the local community, state, and nation

5th

5.17
Citizenship. The student understands the importance of individual participation in the democratic process at the local, state, and national levels. The student is expected to:

5.17(A)
explain why individuals have a duty to participate in civic affairs at the local, state, and national levels

5.17(B)
explain how to contact elected and appointed leaders in local, state, and national governments.

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

State Colonization Law of 1825

7th

7.2(D)
identify the individuals, issues, and events related to Mexico becoming an independent nation and its impact on Texas, including Father Miguel Hidalgo, Texas involvement in the fight for independence, José Gutiérrez de Lara, the Battle of Medina, the Mexican federal Constitution of 1824, the merger of Texas and Coahuila as a state, the State Colonization Law of 1825, and slavery

7.2(F)
contrast Spanish, Mexican, and Anglo purposes for and methods of settlement in Texas.

7.10(A)
identify why immigrant groups came to Texas and where they settled

stateless nation

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

states' rights

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.17(B)
explain constitutional issues arising over the issue of states' rights, including the Nullification Crisis and the Civil War.

states’ rights

5th

5.4(D)
explain the central role of the expansion of slavery in causing sectionalism, disagreement over states' rights, and the Civil War

7th

7.5(A)
explain the central role the expansion of slavery played in the involvement of Texas in the Civil War

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.17(B)
explain constitutional issues arising over the issue of states' rights, including the Nullification Crisis and the Civil War.

stationary population pyramid

No TEKS assignments found for this visual.

statue

2nd

2.1(B)
identify and explain the significance of various community, state, and national landmarks such as monuments and government buildings.

3rd

3.12(A)
Culture. The student understands the importance of writers and artists to the cultural heritage of communities. The student is expected to identify how various writers and artists such as Kadir Nelson, Tomie dePaola, Carmen Lomas Garza, and Laura Ingalls Wilder and their stories, poems, statues, and paintings contribute to the cultural heritage of communities.

Statue of Liberty

1st

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

5th

5.16(D)
explain the significance of important landmarks, including the White House, the Statue of Liberty, and Mount Rushmore.

Stephen F. Austin

K

K.2(A)
History. The student understands how historical figures helped shape the state and nation. The student is expected to identify contributions of historical figures, including Stephen F. Austin, George Washington, Christopher Columbus, and José Antonio Navarro, who helped to shape the state and nation.

subsistence agriculture

World Geo

WG.1(B)
trace the spatial diffusion of phenomena such as the Columbian Exchange or the diffusion of American popular culture and describe the effects on regions of contact.

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

WG.19(C)
analyze the environmental, economic, and social impacts of advances in technology on agriculture and natural resources.

suburban

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

5th

5.7(A)
identify and describe the patterns of settlement such as rural, urban, and suburban

Suez Canal

World Geo

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

WG.11(C)
assess how changes in climate, resources, and infrastructure (technology, transportation, and communication) affect the location and patterns of economic activities.

WG.21(B)
identify places of contemporary geopolitical significance on a map

Sugar Act

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

sunny

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

supply

3rd

3.6(A)
explain how supply and demand affect the price of a good or service

4th

4.10(A)
describe how the free enterprise system works, including supply and demand

5th

5.11
Economics. The student understands the impact of supply and demand on consumers and producers in a free enterprise system. The student is expected to:

5.11(A)
explain how supply and demand affects consumers in the United States.

5.11(B)
evaluate the effects of supply and demand on industry and agriculture, including the plantation system, in the United States.

sustainability

No TEKS assignments found for this visual.

symbol

K

K.13(A)
identify and state facts based on relevant evidence

2nd

2.11(A)
recite the Pledge of Allegiance to the United States Flag and the Pledge to the Texas Flag

2.11(D)
identify symbols such as state and national birds and flowers and Uncle Sam.

4th

4.14(A)
explain the meaning of various patriotic symbols and landmarks of Texas, including the six flags that flew over Texas, the Alamo, and the San Jacinto Monument

5th

5.16(A)
explain various patriotic symbols, including Uncle Sam; national celebrations such as Labor Day; and political symbols such as the donkey and elephant

symbols

K

K.13(A)
identify and state facts based on relevant evidence

2nd

2.11(A)
recite the Pledge of Allegiance to the United States Flag and the Pledge to the Texas Flag

2.11(D)
identify symbols such as state and national birds and flowers and Uncle Sam.

4th

4.14(A)
explain the meaning of various patriotic symbols and landmarks of Texas, including the six flags that flew over Texas, the Alamo, and the San Jacinto Monument

5th

5.16(A)
explain various patriotic symbols, including Uncle Sam; national celebrations such as Labor Day; and political symbols such as the donkey and elephant

Taj Mahal

World Geo

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

tariff

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(B)
explain the effects of the Fugitive Slave Act of 1793

tax

2nd

2.8(A)
identify functions of governments such as establishing order, providing security, and managing conflict.

2.8(B)
identify governmental services in the community such as police and fire protection, libraries, schools, and parks and explain their value to the community.

taxation

5th

5.2(A)
analyze the causes and effects of events prior to and during the American Revolution, including the taxation resulting from the French and Indian War and the colonist response to taxation such as the Boston Tea Party

Tea Act

8th

8.4(A)
analyze causes of the American Revolution, including the Proclamation of 1763, the Intolerable Acts, the Stamp Act, mercantilism, lack of representation in Parliament, and British economic policies following the French and Indian War

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.20(A)
evaluate the contributions of the Founding Fathers as models of civic virtue.

Teapot Dome scandal

USH

US.18(C)
describe the effects of political scandals, including Teapot Dome, Watergate, and Bill Clinton's impeachment, on the views of U.S. citizens concerning trust in the federal government and its leaders.

technology

K

K.12
Science, technology, and society. The student understands ways technology is used in the home and school and how technology affects people's lives. The student is expected to:

K.12(A)
identify examples of technology used in the home and school

K.12(B)
describe how technology helps accomplish specific tasks and meet people's needs.

K.12(C)
describe how his or her life might be different without modern technology.

K.13
Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including technology. The student is expected to:

3rd

3.13(B)
describe the impact of scientific breakthroughs and new technology in computers, pasteurization, and medical vaccines on various communities.

5th

5.23
Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including technology. The student is expected to:

5.23(A)
differentiate between, locate, and use valid primary and secondary sources such as technology; interviews; biographies; oral, print, and visual material; documents; and artifacts to acquire information about the United States

5.22(A)
identify the accomplishments of notable individuals in the fields of science and technology such as Benjamin Franklin, Eli Whitney, John Deere, Thomas Edison, Alexander Graham Bell, George Washington Carver, the Wright Brothers, and Neil Armstrong

5.22(B)
identify how scientific discoveries, technological innovations, and the rapid growth of technology industries have advanced the economic development of the United States, including the transcontinental railroad and the space program.

5.22
Science, technology, and society. The student understands the impact of science and technology on society in the United States. The student is expected to:

World Geo

WG.8(A)
compare ways that humans depend on, adapt to, and modify the physical environment, including the influences of culture and technology

tectonic forces

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.3(A)
explain weather conditions and climate in relation to annual changes in Earth-Sun relationships

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Tejano

4th

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

4.17(A)
identify customs, celebrations, and traditions of various cultural, regional, and local groups in Texas such as Cinco de Mayo, Oktoberfest, and Fiesta San Antonio.

7th

7.18(C)
identify examples of Spanish influence and the influence of other cultures on Texas such as place names, vocabulary, religion, architecture, food, and the arts.

telegraph

8th

8.28(A)
compare the effects of scientific discoveries and technological innovations that have influenced daily life in different periods in U.S. history.

temperance movement

8th

8.22(B)
describe the contributions of significant political, social, and military leaders of the United States such as Frederick Douglass, John Paul Jones, Susan B. Anthony, and Elizabeth Cady Stanton.

8.24(B)
evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

temperature

K

K.4(A)
identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

term

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

territory

8th

8.6(A)
explain how the Northwest Ordinance established principles and procedures for orderly expansion of the United States

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

World Geo

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

Tet offensive

USH

US.8(E)
analyze the major events of the Vietnam War, including the escalation of forces, the Tet Offensive, Vietnamization, and the fall of Saigon.

Texas

1st

1.4(B)
locate and explore the community, Texas, and the United States on maps and globes.

1.13(C)
identify anthems and mottoes of Texas and the United States

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

World Geo

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

Texas Constitution

4th

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

Texas Declaration of Independence

4th

4.3(D)
describe the successes, problems, and organizations of the Republic of Texas such as the establishment of a constitution, economic struggles, relations with American Indians, and the Texas Rangers.

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

Texas executive branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Texas flag

K

K.9(A)
identify the United States flag and the Texas state flag

K.9(B)
recite the Pledge of Allegiance to the United States Flag and the Pledge to the Texas Flag.

1st

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

Texas judicial branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Texas legislative branch

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

5th

5.15(A)
identify and explain the basic functions of the three branches of government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.11(B)
explain how opportunities for citizens to participate in and influence the political process vary among various contemporary societies.

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Texas Revolution

4th

4.3(A)
analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto

4.3(B)
summarize the significant contributions of individuals such as William B. Travis, James Bowie, David Crockett, Juan N. Seguín, Plácido Benavides, José Francisco Ruiz, Antonio López de Santa Anna, Susanna Dickinson, and Enrique Esparza

4.3(C)
identify leaders important to the founding of Texas as a republic and state, including José Antonio Navarro, Sam Houston, Mirabeau Lamar, and Anson Jones

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

7th

7.3(B)
explain the roles played by significant individuals during the Texas Revolution, including George Childress, Lorenzo de Zavala, James Fannin, Sam Houston, Antonio López de Santa Anna, Juan N. Seguín, and William B. Travis.

7.3(C)
explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San Jacinto.

8th

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

8.11(A)
analyze how physical characteristics of the environment influenced population distribution, settlement patterns, and economic activities in the United States.

textile

8th

8.7(A)
analyze the impact of tariff policies on sections of the United States before the Civil War

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

The Alamo

1st

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

thematic map

No TEKS assignments found for this visual.

theocracy

6th

6.10(A)
identify and give examples of governments with rule by one, few, or many

6.17(A)
explain the relationship among religious ideas, philosophical ideas, and cultures.

World Geo

WG.14(B)
compare how democracy, dictatorship, monarchy, republic, theocracy, and totalitarian systems operate in specific countries.

WG.23(A)
explain governmental and democratic processes such as voting, due process, and caucuses using simulations and models

The Space Race

USH

US.2(B)
explain the significance of the following years as turning points: 1898 (Spanish-American War), 1914-1918 (World War I), 1929 (the Great Depression begins), 1939-1945 (World War II), 1957 (Sputnik launch ignites U.S.-Soviet space race), 1968 (Martin Luther King Jr. assassination), 1969 (U.S. lands on the moon), 1991 (Cold War ends), 2001 (terrorist attacks on World Trade Center and the Pentagon), and 2008 (election of first black president, Barack Obama).

US.8(B)
describe how Cold War tensions were intensified by the House Un-American Activities Committee (HUAC), McCarthyism, the arms race, and the space race

Thirteen (13) British Colonies

5th

5.13
Government. The student understands the organization of governments in colonial America. The student is expected to:

5.9(B)
identify major industries of colonial America such as shipbuilding and growing of cash crops.

5.10(A)
identify the development of the free enterprise system in colonial America and the United States

8th

8.2(A)
identify reasons for English, Spanish, and French exploration and colonization of North America.

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

Thirteenth (13th) Amendment

4th

4.4(A)
describe the impact of the Civil War and Reconstruction on Texas

4.14(D)
describe the origins and significance of state celebrations such as Texas Independence Day and Juneteenth.

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

Thirteenth Amendment

5th

5.4(E)
explain the effects of the Civil War, including Reconstruction and the 13th, 14th, and 15th amendments to the U.S. Constitution.

7th

7.5(C)
explain the political, economic, and social effects of the Civil War and Reconstruction in Texas.

8th

8.16(B)
describe the impact of the 13th, 14th, and 15th amendments.

Three-Fifths Compromise

8th

8.4(D)
analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

8.21(C)
summarize historical events in which compromise resulted in a resolution such as the Missouri Compromise, Compromise of 1850, and Kansas-Nebraska Act.

time-space compression

No TEKS assignments found for this visual.

Tinker v. Des Moines

USH

US.8(F)
describe the responses to the Vietnam War, including the draft, the 26th Amendment, the role of the media, the credibility gap, the silent majority, and the anti-war movement.

US.20(A)
analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

US.22(A)
identify and analyze methods of expanding the right to participate in the democratic process, including lobbying, non-violent protesting, litigation, and amendments to the U.S. Constitution

trade/trading

8th

8.2(B)
compare political, economic, religious, and social reasons for the establishment of the 13 English colonies.

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

traditions

K

K.11
Culture. The student understands the importance of family traditions. The student is expected to:

K.11(A)
describe and explain the importance of family traditions.

Trail of Tears

8th

8.5
History. The student understands the challenges confronted by the government and its leaders in the early years of the republic and the Age of Jackson. The student is expected to:

(H)
Description unavailable right now.

transatlantic slave trade

8th

8.7(C)
analyze the impact of the Fugitive Slave Act of 1850 on slavery, free Blacks, and abolitionists

8.12(B)
explain reasons for the development of the plantation system, the transatlantic slave trade, and the spread of slavery.

transcendentalism

8th

8.26(A)
identify examples of American art, music, and literature that reflect society in different eras such as the Hudson River School artists, the "Battle Hymn of the Republic," and transcendental literature.

transcontinental railroad

5th

5.22(B)
identify how scientific discoveries, technological innovations, and the rapid growth of technology industries have advanced the economic development of the United States, including the transcontinental railroad and the space program.

5.4(F)
identify the challenges, opportunities, and contributions of people from various American Indian and immigrant groups such as the settlement of the frontier and building of the Transcontinental Railroad.

8th

8.27(B)
analyze how technological innovations changed the way goods were manufactured and distributed, nationally and internationally.

USH

US.15(A)
describe how the economic impact of the Transcontinental Railroad and the Homestead Act contributed to the close of the frontier in the late 19th century

Treaties of Velasco

4th

4.3(A)
analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto

4.3(B)
summarize the significant contributions of individuals such as William B. Travis, James Bowie, David Crockett, Juan N. Seguín, Plácido Benavides, José Francisco Ruiz, Antonio López de Santa Anna, Susanna Dickinson, and Enrique Esparza

4.3(C)
identify leaders important to the founding of Texas as a republic and state, including José Antonio Navarro, Sam Houston, Mirabeau Lamar, and Anson Jones

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

4.13(A)
identify the purposes and explain the importance of the Texas Declaration of Independence and the Texas Constitution

7th

7.3(B)
explain the roles played by significant individuals during the Texas Revolution, including George Childress, Lorenzo de Zavala, James Fannin, Sam Houston, Antonio López de Santa Anna, Juan N. Seguín, and William B. Travis.

7.3(C)
explain the issues surrounding significant events of the Texas Revolution, including the Battle of Gonzales; the siege of the Alamo, William B. Travis's letter "To the People of Texas and All Americans in the World," and the heroism of the diverse defenders who gave their lives there; the Constitutional Convention of 1836; Fannin's surrender at Goliad; and the Battle of San

Jacinto.

treaty

4th

4.13(B)
identify and explain the basic functions of the three branches of government according to the Texas Constitution.

Treaty of Ghent

8th

8.5(D)
explain the origin and development of American political parties

8.13(A)
analyze the economic effects of the War of 1812.

Treaty of Guadalupe Hidalgo

4th

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

7th

7.4(C)
identify individuals, events, and issues during early Texas statehood, including the U.S.-Mexican War, the Treaty of Guadalupe-Hidalgo, slavery, and the Compromise of 1850.

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.6(C)
explain the causes and effects of the U.S.-Mexican War and their impact on the United States.

8.10(A)
locate places and regions directly related to major eras and turning points in the United States during the 17th, 18th, and 19th centuries

Treaty of Paris of 1783

8th

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.4(C)
explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

Treaty of Versailles

USH

US.4(F)

analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

trenches/trench warfare

USH

US.4(E)

analyze the impact of machine guns, airplanes, tanks, poison gas, and trench warfare as significant technological innovations in World War I on the Western Front.

US.26(B)

explain how specific needs result in scientific discoveries and technological innovations in agriculture, the military, and medicine.

tropical cyclone

World Geo

WG.3(C)

describe how physical processes such as hurricanes, El Niño, earthquakes, and volcanoes affect the lithosphere, atmosphere, hydrosphere, and biosphere.

WG.8(B)

analyze the consequences of extreme weather and other natural disasters such as El Niño, floods, tsunamis, and volcanoes on people and their environment.

tropical rainforest

World Geo

WG.3(B)

describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.8(B)

analyze the consequences of extreme weather and other natural disasters such as El Niño, floods, tsunamis, and volcanoes on people and their environment.

Truman Doctrine

USH

US.8(A)

describe U.S. responses to Soviet aggression after World War II, including the Truman Doctrine, the Marshall Plan, the Berlin Airlift, the North Atlantic Treaty Organization, and John F. Kennedy's role in the Cuban Missile Crisis

tsunami

World Geo

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

WG.10(B)
classify countries along the economic spectrum between free enterprise and communism

Turtle Bayou Resolutions

7th

7.3(A)
describe the chain of events that led to the Texas Revolution, including the Fredonian Rebellion, the Mier y Terán Report, the Law of April 6, 1830, the Turtle Bayou Resolutions, and the arrest of Stephen F. Austin

U.S.-Mexican War

4th

4.3(A)
analyze the causes, major events, and effects of the Texas Revolution, including the Battle of the Alamo, the Texas Declaration of Independence, the Runaway Scrape, and the Battle of San Jacinto

4.3(E)
explain the events that led to the annexation of Texas to the United States and the impact of the U.S.-Mexican War.

7th

7.4(C)
identify individuals, events, and issues during early Texas statehood, including the U.S.-Mexican War, the Treaty of Guadalupe-Hidalgo, slavery, and the Compromise of 1850.

8th

8.6(B)
analyze the westward growth of the nation, including the Louisiana Purchase and Manifest Destiny.

8.6(C)
explain the causes and effects of the U.S.-Mexican War and their impact on the United States.

U.S. Constitution

3rd

3.8(A)
identify the purposes of the Declaration of Independence and the U.S. Constitution, including the Bill of Rights.

Uncle Tom's Cabin

8th

8.24(A)
describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

Underground Railroad

8th

8.22(B)

describe the contributions of significant political, social, and military leaders of the United States such as Frederick Douglass, John Paul Jones, Susan B. Anthony, and Elizabeth Cady Stanton.

8.24(A)

describe and evaluate the historical development of the abolition movement, including activities that focused attention on the moral ills of slavery.

United Nations

USH

US.7(B)

evaluate the domestic and international leadership of Franklin D. Roosevelt and Harry Truman during World War II, including the U.S. relationship with its allies

United States

1st

1.4(B)
locate and explore the community, Texas, and the United States on maps and globes.

1.13(C)
identify anthems and mottoes of Texas and the United States

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

5th

5.6(A)
describe political and economic regions in the United States that result from patterns of human activity

5.7(C)
analyze the geographic factors that influence the location of the five largest urban areas in the United States and explain their distribution.

5.8(A)
describe how and why people have adapted to and modified their environment in the United States such as the use of human resources to meet basic needs.

5.6(B)
describe regions in the United States based on physical characteristics such as landform, climate, and vegetation

5.6(C)
locate on a map important political features such as the five largest cities by population in the United States and the 50 states.

5.6(D)
create a map of important physical features such as the Appalachian Mountains, Great Lakes, Mississippi River, Great Plains, and Rocky Mountains.

5.7(B)
explain the geographic factors that influence patterns of settlement and the distribution of population in the United States.

5.8(B)
analyze the positive and negative consequences of human modification of the environment in the United States.

5.1(A)
explain when, where, and why groups of people explored, colonized, and settled in the United States, including the search for religious freedom and economic gain.

5.12(A)
compare how people in different regions of the United States earn a living, past and present

World Geo

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

United States flag

K

K.9(A)
identify the United States flag and the Texas state flag

K.9(B)
recite the Pledge of Allegiance to the United States Flag and the Pledge to the Texas Flag.

1st

1.13(A)
explain state and national patriotic symbols, including the United States and Texas flags, the Liberty Bell, the Statue of Liberty, and the Alamo

unlimited government

6th

6.9(B)
identify reasons for limiting the power of government.

6.10(A)
identify and give examples of governments with rule by one, few, or many

Ural Mountains

World Geo

WG.3(B)
describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes.

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.4(B)
describe different landforms such as plains, mountains, and islands and the physical processes that cause their development.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

urban

2nd

2.5(A)
identify ways in which people have modified the physical environment such as clearing land, building roads, using land for agriculture, and drilling for oil

4th

4.5(B)
explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

4.7(B)
identify and explain patterns of settlement such as the location of towns and cities in Texas at different time periods.

4.8(A)
describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams

5th

5.7(A)
identify and describe the patterns of settlement such as rural, urban, and suburban

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

6.5(B)
identify and analyze ways people have adapted to the physical environment in various places and regions.

7th

7.10(D)
analyze the effects of the changing population distribution and growth in Texas and the additional need for education, health care, and transportation.

7.11(A)
explain economic factors and the development of major industries that led to the urbanization of Texas such as transportation, oil and gas, and manufacturing.

7.11(B)
explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.

World Geo

WG.4(A)
explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions

WG.5(A)
analyze how the character of a place is related to its political, economic, social, and cultural elements.

WG.9(A)
identify physical and/or human factors such as climate, vegetation, language, trade networks, political units, river systems, and religion that constitute a region.

WG.6(A)
locate and describe human and physical features that influence the size and distribution of settlements.

WG.6(B)
explain the processes that have caused changes in settlement patterns, including urbanization, transportation, access to and availability of resources, and economic activities.

USH

US.3(C)

analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.13(A)

analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

urbanization

4th

4.5(B)
explain the development and impact of the oil and gas industry on industrialization and urbanization in Texas, including Spindletop and important people such as Pattillo Higgins.

4.20(B)
interpret geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

4.7(A)
explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

6th

6.3(A)
identify and explain the geographic factors responsible for patterns of population in places and regions

6.3(B)
explain ways in which human migration influences the character of places and regions

7th

7.11(A)
explain economic factors and the development of major industries that led to the urbanization of Texas such as transportation, oil and gas, and manufacturing.

7.11(B)
explain the changes in the types of jobs and occupations that have resulted from the urbanization of Texas.

8th

8.13(B)
identify the economic factors that brought about rapid industrialization and urbanization.

8.23(B)
explain how urbanization contributed to conflicts resulting from differences in religion, social class, and political beliefs

World Geo

WG.6(B)WG.6(A)
Description unavailable right now.

WG.9
Geography. The student understands the concept of region as an area of Earth's surface with related geographic characteristics. The student is expected to:

(A)
Description unavailable right now.

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

USH

US.3(C)
analyze social issues affecting women, minorities, children, immigrants, and urbanization.

US.13(A)
analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

urban sprawl

No TEKS assignments found for this visual.

USMCA

World Geo

WG.7(D)
analyze how globalization affects connectivity, standard of living, pandemics, and loss of local culture.

WG.8(C)
evaluate the economic and political relationships between settlements and the environment, including sustainable development and renewable/non-renewable resources.

WG.12(A)
analyze how the creation, distribution, and management of key natural resources affects the location and patterns of movement of products, money, and people.

WG12.(B)
Description unavailable right now.

WG.14(A)
analyze current events to infer the physical and human processes that lead to the formation of boundaries and other political divisions

WG.14(C)
analyze the human and physical factors that influence control of territories and resources, conflict/war, and international relations of sovereign nations such as China, the United States, Japan, and Russia and international organizations such as the United Nations (UN) and the European Union (EU).

USSR

6th

6.1(A)
trace characteristics of various contemporary societies in regions that resulted from historical events or factors such as colonization, immigration, and trade.

6.1(B)
analyze the historical background of various contemporary societies to evaluate relationships between past conflicts and current conditions.

Valley Forge

8th

8.4(B)
explain the roles played by significant individuals during the American Revolution, including Abigail Adams, John Adams, Wentworth Cheswell, Samuel Adams, Mercy Otis Warren, James Armistead, Benjamin Franklin, Crispus Attucks, King George III, Patrick Henry, Thomas Jefferson, the Marquis de Lafayette, Thomas Paine, and George Washington

8.4(C)
explain the issues surrounding important events of the American Revolution, including declaring independence; fighting the battles of Lexington and Concord, Saratoga, and Yorktown; enduring the winter at Valley Forge; and signing the Treaty of Paris of 1783.

vernacular region

World Geo

WG.10(D)
compare global trade patterns over time and analyze the implications of globalization, including outsourcing and free trade zones.

Veterans Day

K

K.1(A)
identify national patriotic holidays such as Constitution Day, Presidents' Day, Veterans Day, and Independence Day.

1st

1.1(A)
describe the origins of customs, holidays, and celebrations of the community, state, and nation such as Constitution Day, Independence Day, and Veterans Day.

2nd

2.1(A)
explain the significance of various community, state, and national celebrations such as Veterans Day, Memorial Day, Independence Day, and Thanksgiving.

veto

8th

8.15(D)
analyze how the U.S. Constitution reflects the principles of limited government, republicanism, checks and balances, federalism, separation of powers, popular sovereignty, and individual rights.

Virginia House of Burgesses

5th

5.13(B)
identify examples of representative government in the American colonies, including the Mayflower Compact and the Virginia House of Burgesses.

8th

8.3(B)
analyze the importance of the Mayflower Compact, the Fundamental Orders of Connecticut, and the Virginia House of Burgesses to the growth of representative government.

Virginia Plan

8th

8.4(D)
analyze the issues of the Constitutional Convention of 1787, including the Great Compromise and the Three-Fifths Compromise.

voting

K

K.9(C)
use voting as a method for group decision making.

1st

1.12(A)
identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting.

1.13(D)
explain and practice voting as a way of making choices and decisions.

2nd

2.10(A)
identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting

2.11(C)
use voting as a method for group decision making

3rd

3.9(A)
identify characteristics of good citizenship, including truthfulness, justice, equality, respect for oneself and others, responsibility in daily life, and participation in government by educating oneself about the issues, respectfully holding public officials to their word, and voting

3.9(E)
use voting as a method for group decision making.

voting rights/suffrage

8th

8.5(F)
identify the foreign policies of presidents Washington through Monroe and explain the impact of Washington's Farewell Address and the Monroe Doctrine

8.23(E)
identify the political, social, and economic contributions of women to American society.

8.24(B)
evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

Voting Rights Act of 1965

7th

7.7(D)
describe and compare the civil rights and equal rights movements of various groups in Texas in the 20th century and identify key leaders in these movements such as James L. Farmer Jr., Hector P. Garcia, Oveta Culp Hobby, Lyndon B. Johnson, the League of United Latin American Citizens (LULAC), Jane McCallum, and Lulu Belle Madison White.

USH

US.9(G)
describe presidential actions and congressional votes to address minority rights in the United States, including desegregation of the armed forces, the Civil Rights Act of 1964, and the Voting Rights Act of 1965

wants

K

K.5
Economics. The student understands the difference between human needs and wants and how they are met. The student is expected to:

K.5(B)
explain the difference between needs and wants.

K.5(C)
explain how basic human needs and wants can be met.

1st

1.8(A)
identify examples of people wanting more than they can have

4th

4.9(A)
explain the economic activities various early American Indian groups in Texas used to meet their needs and wants such as farming, trading, and hunting.

4.9(B)
explain the economic activities early settlers to Texas used to meet their needs and wants.

War of 1812

5th

5.4(A)
describe the causes and effects of the War of 1812 such as impressment of sailors, territorial conflicts with Great Britain, and the increase in U.S. manufacturing

8th

8.5(D)
explain the origin and development of American political parties

8.13(A)
analyze the economic effects of the War of 1812.

8.21(A)
identify different points of view of political parties and interest groups on important historical issues

War Powers Act

USH

US.8(D)
explain reasons and outcomes for U.S. involvement in foreign countries and their relationship to the Domino Theory, including the Vietnam War

US.8(F)
describe the responses to the Vietnam War, including the draft, the 26th Amendment, the role of the media, the credibility gap, the silent majority, and the anti-war movement.

US.19(A)
describe the impact of events such as the Gulf of Tonkin Resolution and the War Powers Act on the relationship between the legislative and executive branches of government.

Washington's Farewell Address

8th

8.5(E)
explain the causes, important events, and effects of the War of 1812

8.22(A)
analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

Washington, D.C.

2nd

2.4(B)
locate places, including the local community, Texas, the United States, the state capital, the U.S. capital, and the bordering countries of Canada and Mexico on maps and globes.

Watergate Scandal

USH

US.18(C)
describe the effects of political scandals, including Teapot Dome, Watergate, and Bill Clinton's impeachment, on the views of U.S. citizens concerning trust in the federal government and its leaders.

weather

K

K.5(A)
identify basic human needs of food, clothing, and shelter

1st

1.5(A)
identify and describe the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

World Geo

WG.11(B)
identify the factors affecting the location of different types of economic activities, including subsistence and commercial agriculture, manufacturing, and service industries.

WG.10(C)
compare the ways people satisfy their basic needs through the production of goods and services such as subsistence agriculture versus commercial agriculture or cottage industries versus commercial industries.

Whiskey Rebellion

8th

8.5(A)
describe major domestic problems faced by the leaders of the new republic, including maintaining national security, creating a stable economic system, and setting up the court system

8.5(B)
explain the effects of the Fugitive Slave Act of 1793

8.22(A)
analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

White v. Regester

USH

US.20(A)

analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

Wilson's Fourteen Points

USH

US.4(F)

analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

wind

K

K.4(A)

identify the physical characteristics of place such as landforms, bodies of water, Earth's resources, and weather.

Wisconsin v. Yoder

USH

US.20(A)

analyze the effects of landmark U.S. Supreme Court decisions, including Plessy v. Ferguson, Brown v. Board of Education, Hernandez v. Texas, Tinker v. Des Moines, and Wisconsin v. Yoder.

women's rights movement

5th

5.5(C)

identify the accomplishments and contributions of individuals and groups such as Susan B. Anthony, Martin Luther King Jr., Rosa Parks, Cesar Chavez, Franklin D. Roosevelt, Ronald Reagan, the Tuskegee Airmen, and the 442nd Regimental Combat Team in the areas of civil rights, women's rights, military actions, and politics.

7th

7.7(C)

describe and compare the impact of reform movements in Texas in the 19th and 20th centuries such as progressivism, populism, women's suffrage, agrarianism, labor reform, and the conservative movement of the late 20th century

8th

8.1(A)

identify the major eras in U.S. history through 1877, including colonization, revolution, creation and ratification of the Constitution, early republic, the Age of Jackson, westward expansion, reform movements, sectionalism, Civil War, and Reconstruction, and describe their causes and effects.

8.22(B)

describe the contributions of significant political, social, and military leaders of the United States such as Frederick Douglass, John Paul Jones, Susan B. Anthony, and Elizabeth Cady Stanton.

8.23(E)

identify the political, social, and economic contributions of women to American society.

8.24(B)

evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

women’s rights

5th

5.5(C)
identify the accomplishments and contributions of individuals and groups such as Susan B. Anthony, Martin Luther King Jr., Rosa Parks, Cesar Chavez, Franklin D. Roosevelt, Ronald Reagan, the Tuskegee Airmen, and the 442nd Regimental Combat Team in the areas of civil rights, women's rights, military actions, and politics.

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8.23(E)
identify the political, social, and economic contributions of women to American society.

8.24(B)
evaluate the impact of reform movements, including educational reform, temperance, the women's rights movement, prison reform, the labor reform movement, and care of the disabled.

Worcester v. Georgia

8th

8.18(B)
summarize the issues, decisions, and significance of landmark Supreme Court cases, including Marbury v. Madison, McCulloch v. Maryland, and Gibbons v. Ogden.

8.22(A)
analyze the leadership qualities of elected and appointed leaders of the United States such as George Washington, John Marshall, and Abraham Lincoln.

World War I

5th

5.5(A)

explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

6th

6.20(D)

create and interpret regional sketch maps, thematic maps, graphs, and charts depicting aspects such as population, disease, and economic activities of various world regions and countries.

7th

7.7(E)

analyze the political, economic, and social impact of World War I, the Great Depression, World War II, and significant issues in the latter half of the 20th and early 21st centuries such as political and economic controversies, immigration, and migration on the history of Texas.

USH

US.4(C)

identify the causes of World War I and reasons for U.S. entry

US.4(F)

analyze major issues raised by U.S. involvement in World War I, including isolationism, neutrality, Woodrow Wilson's Fourteen Points, and the Treaty of Versailles.

US.15(D)

describe the economic effects of international military conflicts, including the Spanish-American War and World War I, on the United States.

World War II

4th

4.18(B)
describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.

5th

5.5(A)
explain the significance of issues and events of the 20th century such as industrialization, urbanization, the Great Depression, the world wars, the civil rights movement, and military actions

6th

6.20(D)
create and interpret regional sketch maps, thematic maps, graphs, and charts depicting aspects such as population, disease, and economic activities of various world regions and countries.

USH

US.7(A)
identify reasons for U.S. involvement in World War II, including the aggression of Italian, German, and Japanese dictatorships, especially the attack on Pearl Harbor

US.7(B)
evaluate the domestic and international leadership of Franklin D. Roosevelt and Harry Truman during World War II, including the U.S. relationship with its allies

US.7(C)
analyze major issues of World War II, including the Holocaust, the internment of Japanese Americans as a result of Executive Order 9066, and the development of atomic weapons

US.7(D)
analyze major military events of World War II, including fighting the war on multiple fronts, the Bataan Death March, the U.S. military advancement through the Pacific Islands, the Battle of Midway, the invasion of Normandy, and the liberation of concentration camps

US.7(E)
describe the military contributions of leaders during World War II, including Dwight Eisenhower, Douglas MacArthur, and Chester W. Nimitz

US.7(F)
explain issues affecting the home front, including volunteerism, the purchase of war bonds, and Victory Gardens and opportunities and obstacles for women and ethnic minorities.

US.7(G)
explain how American patriotism inspired high levels of military enlistment and the bravery and contributions of the Tuskegee Airmen, the Flying Tigers, and the Navajo Code Talkers.

Wounded Knee Massacre

USH

US.13(A)
analyze the causes and effects of changing demographic patterns resulting from migration within the United States, including western expansion, rural to urban, the Great Migration, and the Rust Belt to the Sun Belt.

yesterday/today/tomorrow

K

K.14(B)
use social studies terminology related to time and chronology correctly, including before, after, next, first, last, yesterday, today, and tomorrow

Zimmermann telegram

USH

US.4(C)

identify the causes of World War I and reasons for U.S. entry

[GIS]

World Geo

WG.4(A)

explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions