

Teacher Guide for the Lesson on **place value**

Standard:

5.2(A)

Content Objective:

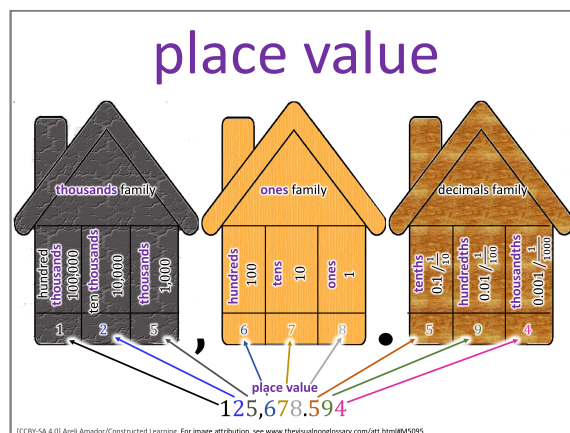
We can use **place value** to represent numbers through the **thousandths** using **expanded notation** and numerals.

Language Objective: Answer the following question in complete sentences using the sentence stem and the key vocabulary of the lesson:

How can you use **place value** to write a number in **expanded notation**? Can you give an example?

*I can use **place value** to write a number in **expanded notation** by...One example is...*

Other key vocabularies: [rounding](#), [expanded notation](#)



By studying this visual, students might:

Notice	Wonder
The words thousand and thousandths look similar but mean very different values.	Why is each digit a different color?
The words hundred and hundredths also look similar but represent different types of numbers.	How can you tell what each digit is worth?
The digits in the number are color-coded to match their corresponding place value labels.	What does the full number equal?

Each digit is positioned directly above a labeled place value.	Why are there places to the right of the decimal?
The digits show how numbers get smaller as you move to the right of the decimal point.	How do you use this to write numbers in expanded notation?

EXTENDING THE DISCUSSION

- After randomly calling on students, if there is anything from this list that was not mentioned, then ask the class, "Did anyone notice...?"
- After students have shared what they notice, ask the class, "Did anyone wonder...?" using the suggestions above or anything else you might think is interesting or relevant to the lesson.

Structured Conversation Prompts

OBSERVATIONAL	RELATIONAL	INFERENTIAL
What is place value? Place value is...	How is place value related to rounding? Place value is related to rounding because...	How can you use place value to write a number in expanded notation? Can you give an example? I can use place value to write a number in expanded notation by...One example is...

Example Student Responses to the Observational Question

Low-Level	High-Level
Place value tells you how much a number is worth depending on where it is.	Place value is the value of a digit based on where it is in a number. Like, the 6 is in the hundreds place so it's worth 600.

RESPONDING TO RESPONSES

Emphasize and celebrate each student's use of the key vocabulary to support a culture of "no wrong answers."

STRUCTURING STUDENT CONVERSATIONS

Have students list observations from the visual as a warm-up, then use the Q-SSS-A process to guide small-group conversations. In the slide decks, brackets can be moved to prepare the structured conversation. In the example to the right, students will be instructed: [Q-SSS-A](#).

- To put a thumb up, then lower their hand when they are ready to answer the question
- To share with their elbow/shoulder partner, and that the student with the darkest shoe will share first
- That they will be randomly called on after the conversation

[Here is an example](#) of structuring a conversation with Q-SSS-A.

Note: the inferential question is the same as the language objective. It is recommended that students answer the inferential question in a small-group discussion before answering it individually as the closure or exit ticket of the lesson.



Structured Reading

READING PURPOSE	PAT LIST	POST-READING DISCUSSION
Read to discover how place value helps Jayla and Marcus solve a real-world problem.	• The digits in the number and what place each one is in • How the recipe uses a decimal measurement • How place value helps them understand the measurement • Any words that show math thinking or decisions • The difference between terms like hundred and hundredths	Why is understanding place value helpful when working with decimals in real life situations like baking? I think place value is helpful in real life because...

STRUCTURING THE READING

Communicate the purpose of reading to the students and instruct them to make a note every time they see something on the PAT ("Pay Attention To") list. How you have students note items on the PAT list is up to you. This could include:

- Putting an asterisk in the margin
- Underlining text that supports the PAT list
- Putting a comment in the margin

Follow the reading with the post-reading discussion. Structure this discussion using the Q-SSS-A process just like the structured conversations in this lesson.

Note: you might find the relational question is better discussed before or after the reading. This depends on whether the relational question is directly related to the reading or might make connections across units.

DIFFERENTIATING THE READING

You will notice that three different reading passages are provided with this lesson. Look at the shapes in the top-left of each passage to determine the grade level.

BELOW GRADE LEVEL	ON GRADE LEVEL	ABOVE GRADE LEVEL
 <i>Triangle is bottom-left</i>	 <i>Square is bottom-left</i>	 <i>Circle is bottom-left</i>

In a class with students at diverse reading level proficiencies, you can give the appropriate reading passage to different students, while having all students follow the same PAT list and post-reading discussion.