◔ The Visual Non-Glossary™

Number Wall Game

(We're reading to see how expanded notation helps us work with place value in real world situations.)

Pay Attention To:

- how each digit is described using place value
- examples of expanded notation
- what the characters say about each part of the number
- how the characters solve the puzzle

expanded notation

STANDARD FORM		EXPANDED NOTATION

Add each digit by the value of its place.

625

hundreds   tens   ones
$(6 \times 100) + (2 \times 10) + (5 \times 1)$

1,246.5

thousands   hundreds   tens   ones   tenths
$(1 \times 1000) + (2 \times 100) + (4 \times 10) + (6 \times 1) + (5 \times 0.1)$
or $1/10$

25.73

tens   ones   tenths   hundredths
$(2 \times 10) + (5 \times 1) + (7 \times 0.1) + (3 \times 0.01)$
or $1/100$

24.658

tens   ones   tenths   hundredths   thousandths
$(2 \times 10) + (4 \times 1) + (6 \times 0.1) + (5 \times 0.01) + (8 \times 0.001)$
or $1/1000$

Jake and Maya were doing a math game at school. They had to match numbers on the number wall. Each tile showed a number in **expanded notation**.

One tile said: *(7 × 10) + (2 × 1) + (3 × 1/10) + (4 × 1/100) + (5 × 1/1000).*

Jake said, "This is **expanded notation**. It shows how much each digit is worth."

Maya said, "The 7 is in the **tens** place. The 2 is in the **ones** place. The 3 is in the **tenths** place."

Jake added, "The 4 is in the **hundredths** place. The 5 is in the **thousandths** place. All together, it makes 72.345."

They found the tile with that number and put it in the right spot.

Jake said, "**Expanded notation** helps me see the parts of a number."

Then they ran to the next puzzle.

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Number Trail Adventures

(We're reading to see how expanded notation helps us work with place value in real world situations.)

Pay Attention To:

- how each digit is described using place value
- examples of expanded notation
- what the characters say about each part of the number
- how the characters solve the puzzle

expanded notation

STANDARD FORM	EXPANDED NOTATION
625	Add each digit by the value of its place. hundreds · tens · ones $(6 \times 100) + (2 \times 10) + (5 \times 1)$
1,246.5	thousands · hundreds · tens · ones · tenths $(1 \times 1000) + (2 \times 100) + (4 \times 10) + (6 \times 1) + (5 \times 0.1)$ *or* $^1/_{10}$
25.73	tens · ones · tenths · hundredths $(2 \times 10) + (5 \times 1) + (7 \times 0.1) + (3 \times 0.01)$ *or* $^1/_{100}$
24.658	tens · ones · tenths · hundredths · thousandths $(2 \times 10) + (4 \times 1) + (6 \times 0.1) + (5 \times 0.01) + (8 \times 0.001)$ *or* $^1/_{1000}$

Jake and his cousin Maya were working together on a math scavenger hunt at school. Their goal was to solve a puzzle hidden in a giant number wall on the playground. Each tile had a number written in **expanded notation**, and they had to match it to the number in standard form.

One tile showed: *(7 × 10) + (2 × 1) + (3 × 1/10) + (4 × 1/100) + (5 × 1/1000)*. Jake stared at it. "This is **expanded notation**," he said. "It shows how each digit has a value based on its place."

Maya nodded. "Right! The 7 is in the **tens** place, so it's worth seventy. The 2 is in the **ones** place, and the 3 is in the **tenths** place."

Jake continued, "Then the 4 is in the **hundredths** place, and the 5 is in the **thousandths** place. When we add them all together, we get the number: 72.345."

They ran to find the tile with 72.345 written on it and placed it on the puzzle board. "That's one down!" said Maya. As they moved to the next clue, Jake grinned. "I like how **expanded notation** helps me really see what each digit is worth. It's like

breaking the number into pieces."

They high-fived and sprinted to the next challenge.

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Cracking the Number Wall

(We're reading to see how expanded notation helps us work with place value in real world situations.)

Pay Attention To:

- how each digit is described using place value
- examples of expanded notation
- what the characters say about each part of the number
- how the characters solve the puzzle

expanded notation

| STANDARD FORM | | | EXPANDED NOTATION | | |

Add each digit by the value of its place.

STANDARD FORM	EXPANDED NOTATION
625	hundreds tens ones $(6 \times 100) + (2 \times 10) + (5 \times 1)$
1,246.5	thousands hundreds tens ones tenths $(1 \times 1000) + (2 \times 100) + (4 \times 10) + (6 \times 1) + (5 \times 0.1)$ *or* $^1/_{10}$
25.73	tens ones tenths hundredths $(2 \times 10) + (5 \times 1) + (7 \times 0.1) + (3 \times 0.01)$ *or* $^1/_{100}$
24.658	tens ones tenths hundredths thousandths $(2 \times 10) + (4 \times 1) + (6 \times 0.1) + (5 \times 0.01) + (8 \times 0.001)$ *or* $^1/_{1000}$

Jake and Maya joined a school math competition. In one round, they faced a massive number wall. Every tile showed a number in **expanded notation**. To move on, they had to match each one to its standard form.

Jake examined a tile: *(7 × 10) + (2 × 1) + (3 × 1/10) + (4 × 1/100) + (5 × 1/1000)*.

"This is **expanded notation**," he explained. "Each digit's value depends on its place in the number."

Maya pointed out the parts. "7 is in the **tens** place, 2 is in the **ones** place, 3 is in the **tenths** place, 4 in the **hundredths**, and 5 in the **thousandths**."

"Putting it all together, we get 72.345," said Jake.

They grabbed the correct tile and added it to the board. Jake said, "**Expanded notation** makes it easier to break down a number and understand what each part means."

They raced off toward the final puzzle, excited to solve more.

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