InsightMath Texas

Extending Place Value to 1,200

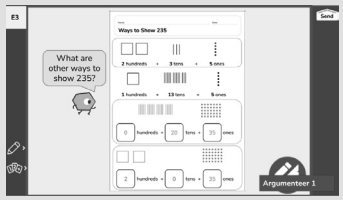
Family Guide | Grade 2 | Unit 5

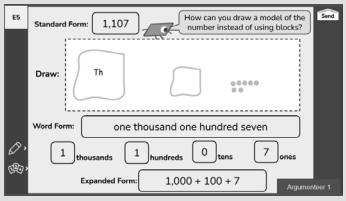
Your student is exploring how the place value system is based on patterns, which makes expressing and working with numbers efficient.

Key Math Ideas

Place value is the value of a digit based on where it is in a number. So in 324, the 3 has a value of 300, the 2 has a value of 20, and the 4 has a value of 4. In this unit, students will explore different ways of modeling and writing numbers using place value. They will think flexibly about how to group or ungroup numbers, for example making 10 tens into 1 hundred.

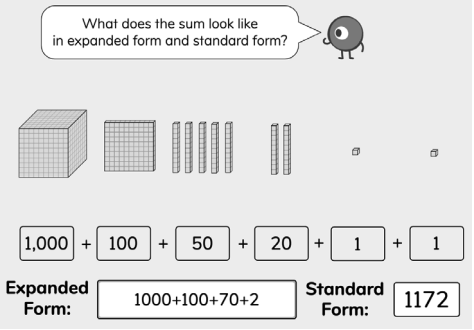
Students also write the same number in different forms. For example the visual to the right shows the standard form and expanded form of 1,107. Students will also write word form, which would be one thousand one hundred seven.





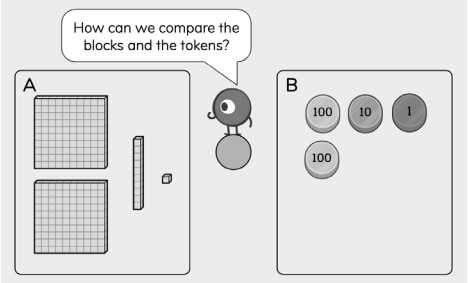
→ In the beginning of the unit, your student will learn to

- describe place value patterns when skip counting or when finding 1, 10, or 100 more or less than a given number;
- describe that 1 hundred means 100 ones or 10 tens;
- describe that 1 thousand means 1,000 ones, 10 hundreds, or 100 tens;
- translate between word form, standard form, and expanded form given a number represented with visual models;
- compose and decompose numbers up to 1,200 in different ways.



→ In the middle of the unit, your student will learn to

- represent three-digit numbers with proportional and non-proportional models, as shown in the the example to the right;
- model the same number up to 1,200 in different ways, such as 317 as 3 hundreds, 1 ten, and 7 ones or 31 tens and 7 ones;
- translate between word form, standard form, and expanded form given a number up to 1,200 represented with visual models.



base-ten model (proportional)

place value tokens (non-proportional)

→ In the last part of the unit, your student will learn to

- compare numbers up to 1,200 and use the symbols <, >, or = to show the relationship;
- use estimation and place value understanding to place numbers up to 1,200 on a number line;
- use a number line to compare and order numbers up to 1,200.

Helpful Hint

Sometimes, students interpret the digit 0 as having no value or "nothing" such as interpreting 304 and 34 as the same value. Address this misconception by having your student model both numbers and ask if the amounts are the same. Then have them write the number names.

304 = 300 + 4
34 = 30 + 4

Tips for Supporting Your Student at Home

Questions to Ask Your Student

→ At the beginning of the unit:

- How many ones, tens, and hundreds do you see?
- How can you represent the number in different ways?
- What is 1, 10, and 100 more than the number __? (try this question with finding 1, 10, and 100 less as well!)

→ In the middle of the unit:

- How does the standard form compare to word form and expanded form?
- How does place value help you represent a number up to 1,200 in expanded form?
- How can you use place value patterns to help you represent numbers up to 1,200?

→ By the end of the unit:

- How can place value help you compare the numbers up to 1,200?
- How does estimation help you place numbers up to 1,200 on a number line?
- How can number lines help you compare and order numbers up to 1,200?

If...	Try...
your student incorrectly writes numbers to match the way they say them, such as writing "100502" when saying "one hundred fifty two" . . .	asking your student to compare the number in standard form (152) to the number in word form. Ask, "Are these numbers the same? How do you know?"

Student Strengths Spotlight

I use math tools and strategies to help me learn.	Using proportional and non-proportional models to represent numbers helps students strengthen their number sense and ability to think flexibly.
I notice when things repeat.	Finding patterns when skip counting helps students make connections and understand number relationships.

Try This Together!

- **Who has more?** Play a game with your student by each getting a handful of small objects like beads or beans. Start by estimating to predict who has more. Then have your students group the object and count by tens to determine how many you each have of the object. Compare your estimations to the actual numbers.
- **Place Value In the World.** Take time to notice place value in the world around you. For example, if doing a 315-piece puzzle as a family, ask your student to tell you about the place value of each digit in 315 (3 hundreds, 1 ten, and 5 ones).
- **Play a game!** Provide your student with playing cards with the face cards not included and the ace representing 1. Have your student choose 3 cards and create a number. For example, if they choose 4, 2, and 6 cards, they can create the number 426. Ask your student to read the number aloud and say the number in expanded form (400 + 20 + 6). Extend the game to see how many ways they can flexibly represent the number. For example, 426 could be 3 hundreds, 12 tens, and 6 ones or 4 hundreds and 26 ones.