Family Support Materials

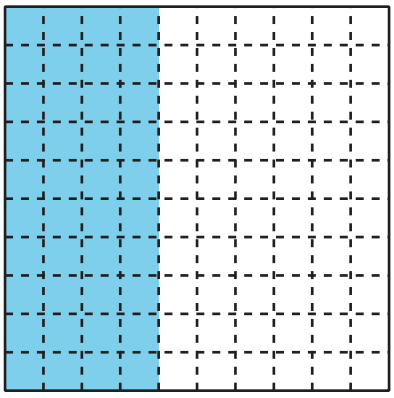
From Hundredths to Hundred-thousands

In this unit, students learn to express small and large numbers, from hundredths to hundred-thousands. They learn to write tenths and hundredths using decimal notation and to work with whole numbers within 1 million.

Section A: Decimals with Tenths and Hundredths

In this section, students relate the fraction $\frac{1}{10}$ to the notation 0.1 and $\frac{1}{100}$ to 0.01. They learn to read 0.1 as "one tenth" and 0.01 as "one hundredth."

To connect the fraction notation, decimal notation, and word name of a fraction, students reason with square diagrams that each represent 1 and are partitioned into hundredths.



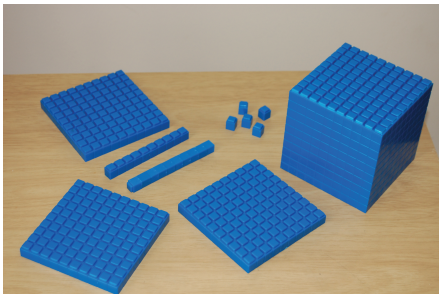
The gridded square helps students see that $\frac{1}{10}$ (or 0.1) and $\frac{10}{100}$ (or 0.10) represent the same amount. It also allows students to recognize other tenths and hundredths that are equivalent.

For instance, the shaded parts of this diagram represent both 40 hundredths ($\frac{40}{100}$) and 4 tenths ($\frac{4}{10}$), so $0.4 = 0.40$.

Later in the section, students locate decimals on number lines. They compare decimals based on size and write comparison statements using the symbols <, >, and =.

Section B: Place-value Relationships through 1,000,000

In this section, students make sense of whole numbers up to the hundred-thousands place. They use base-ten blocks and diagrams to represent large numbers.



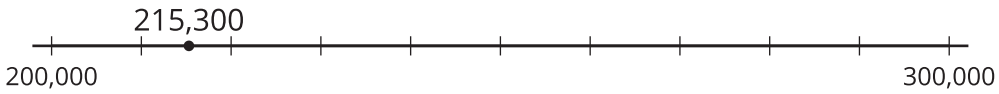
Students come to understand the value of the digit in each position in a multi-digit number. They see that a digit in one place has a value that is ten times the value of the same digit in a place to its right.

For example, the 3 in 347,000 has a value ten times that of the 3 in 34,700, because $300{,}000 = 10 \times 30{,}000$.

Section C: Compare, Order, and Round

In this section, they compare and round numbers within 1,000,000. To compare numbers, students think about the value of the digits and locate the numbers on a number line.

To round a number, they think about multiples of 10, 100, 1,000, 10,000, and 100,000 that are the closest to the number. For example, 215,300 rounded to the nearest hundred-thousand is 200,000.& Students then solve problems involving large numbers in various situations.



Section D: Add and Subtract

In this section, students learn to use the standard algorithm for addition and subtraction. As in earlier grades, they think about composing (putting together) or decomposing (or breaking apart) base-ten units to add and subtract.

To find the value of $17{,}375 + 14{,}024$, for example, students may first write each number in expanded form and then add the values in each place (ten-thousands, thousands, hundreds, tens, ones). Later, they connect this way of adding to the standard algorithm for addition.

$$\begin{array}{rrrrrrrrrrr} & 10{,}000 & + & 7{,}000 & + & 300 & + & 70 & + & 5 & \\ + & 10{,}000 & + & 4{,}000 & + & 0 & + & 20 & + & 4 & \\ \hline & 20{,}000 & + & 11{,}000 & + & 300 & + & 90 & + & 9 & = 31{,}399 \end{array}$$

$$\begin{array}{r} {\scriptstyle 1} \\ 17{,}375 \\ +\;14{,}024 \\ \hline 31{,}399 \end{array}$$

Try it at home!

Near the end of the unit, ask your student about the numbers 769,038 and 170,932:

- What is the value of the 7 in each number? Write a multiplication or division equation to show the relationship between these two values.
- Round each number to the nearest multiple of 1,000 and multiple of 100,000.
- Find the sum and difference of the two numbers.

Questions that may be helpful as they work:

- How did you find your answer?
- How could you solve your problem in a different way?