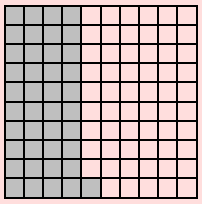
Packet 2: Decimal Concepts

Dear Parents/Guardians,
Numbers in Base Ten Packet 2 explores fraction and decimal numbers using visual models. In Lesson 1, students relate base-10 blocks to fractions and decimals. In Lesson 2, students use a number line to locate and compare decimal numbers through the hundredths. In Lesson 3, students revisit visual models and rename fractions with denominators of 100 to write equivalent numbers as decimals and in words.

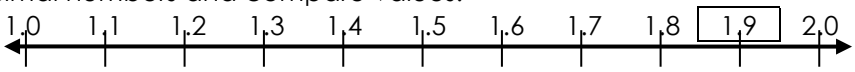
Area Model for Fractions and Decimals

Students explore base-10 blocks to write numbers in words, as fractions and as decimals.
Example: If the entire figure is 1 whole, name the amount in each representation.

Visual	In Words	Fraction	Decimal
	forty-one hundredths (41 of the 100 squares are shaded.)	$\frac{41}{100}$	0.41

Locating Decimals on a Number Line

Students determine the scaling of different number lines to locate decimal numbers and compare values.



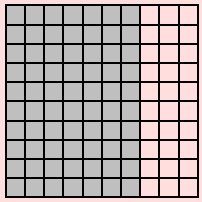
The number line is divided into ten equal parts. Each part has a value of one-tenth, or 0.1. Students can start at 1.0 (or 1) and repeatedly add 0.1, or subtract 0.1 from 2.0 (or 2) to identify the boxed number.

Denominators Equal to 100

Students will explore fractional parts of area models to rewrite fractions with denominators of 100, since it is typically easier to rename fractions in hundredths as decimals rather than halves, thirds, etc.

 $\frac{7}{10}$ of the figure is shaded.

To shade in the same fractional amount of the new figure, shade in 7 of every 10 squares. Since there are 10 rows of 10 squares, there will be ten times as many shaded (and ten times the total). The "big 1" is highlighted as a visual strategy to help students see that the multiplication property of 1 is used.



$$\frac{7}{10} \times \frac{10}{10} = \frac{70}{100}$$

NUMBERS in BASE TEN PACKET 2

By the end of the packet, your student should know…

- How to name a visual model as a fraction and a decimal Lesson 2.1
- How to locate decimals on a number line Lesson 2.2
- How to name equivalent numbers as fractions, decimals, and in words Lesson 2.3

Additional Resources

- For definitions and additional notes please refer to section 2.5.
- For representing visual models as decimal values: https://bit.ly/2yBD58u
- For writing a number as a fraction and a decimal: https://bit.ly/2oplTtU
- For naming decimals on a number line: https://bit.ly/2y6my9a https://bit.ly/2UrynR3