Name _____

Read and Write Decimals Through Thousandths

Florida's B.E.S.T.

- **Number Sense & Operations** 5.NSO.1.2, 5.NSO1.3
- **Mathematical Thinking & Reasoning** MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1

I Can read, write, and represent decimals through thousandths.

UNLOCK the Problem

Real World

The Brooklyn Battery Tunnel in New York City is 1.726 miles long. It is the longest underwater tunnel for vehicles in the United States. To understand this distance, you need to understand the place value of each digit in 1.726.

▲ The Brooklyn Battery Tunnel passes under the East River.

You can use a place-value chart to understand decimals. Whole numbers are to the left of the decimal point. Decimals are to the right of the decimal point. The thousandths place is to the right of the hundredths place.

Tens	Ones	Tenths	Hundredths	Thousandths
	1	7	2	6
	1×1	$7 \times \frac{1}{10}$	$2 \times \frac{1}{100}$	$6 \times \frac{1}{1{,}000}$
	1.0	0.7	0.02	0.006

Value

The place value of the digit 6 in 1.726 is thousandths. The value of 6 in 1.726 is $6 \times \frac{1}{1{,}000}$, or 0.006.

Standard Form: 1.726
Word Form: one and seven hundred twenty-six thousandths

Expanded Form: $1 \times 1 + 7 \times \left(\frac{1}{10}\right) + 2 \times \left(\frac{1}{100}\right) + 6 \times \left(\frac{1}{1{,}000}\right)$

Math Talk

MTR 4.1 Engage in discussions on mathematical thinking.

Explain how the place value of the last digit in a decimal can help you read a decimal.

Try This! Use place value to read and write decimals.

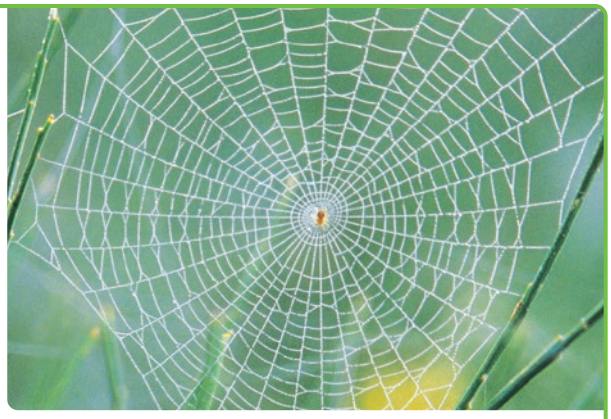
A **Standard Form:** 172.35
Word Form: one hundred seventy-two and _____

Expanded Form: $1 \times 100 + 7 \times 10 + 2 \times 1 +$ _____

B **Standard Form:** _____
Word Form: three and six hundred fourteen thousandths

Expanded Form: _____ $+ 6 \times \left(\frac{1}{10}\right) +$ _____ $+$ _____

Example Use a place-value chart.



A common garden spider spins a web with its silk that is about 0.003 millimeter thick. A commonly used sewing thread is about 0.3 millimeter thick. How does the thickness of the spider silk and the thread compare?

STEP 1 Write the numbers in a place-value chart.

Ones	Tenths	Hundredths	Thousandths

STEP 2 Count the number of decimal place-value positions to the digit 3 in 0.3 and 0.003.

0.3 has _____ fewer decimal places than 0.003

2 fewer decimal places: $10 \times 10 =$ _____

0.3 is _____ times as much as 0.003

0.003 is _____ of 0.3

So, the thread is _____ times as thick as the garden spider's silk. The thickness of the garden spider's silk is

_____ that of the thread.

You can use place-value patterns to rename a decimal.

Try This! Use place-value patterns.

Rename 0.3 using other place values.

0.300	3 tenths	$3 \times \frac{1}{10}$
0.300	_____ hundredths	_____ $\times \frac{1}{100}$
0.300	_____	_____