5 Module 3

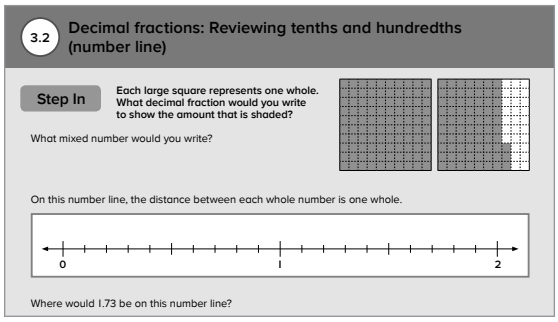
ORIGO STEPPING STONES 2.0

Core Focus

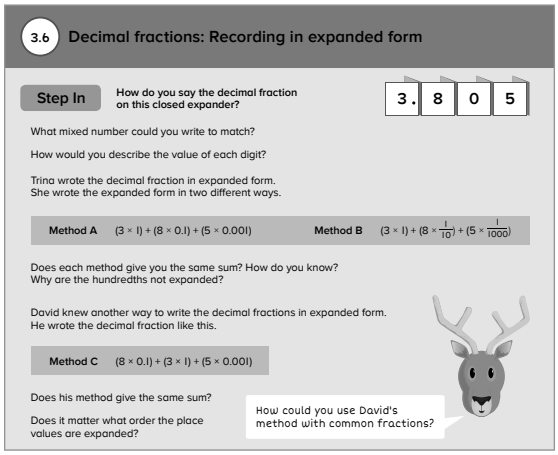
- Decimal fractions: Introducing thousandths, and rounding with unequal decimal places

Introducing thousandths

- Students review how tenths and hundredths decimals are written, and how they can be represented on a **numeral expander**, on a number line, and by shading portions of a large square divided into 100 parts.
- Students extend their understanding to **decimal fractions** in the thousandths, visualizing how place value in our number system decreases (always by a factor of one-tenth) as we move to the right in writing numbers, and increases (always by a factor of ten) as we move left in writing numbers.



In this lesson, students use familiar models, such as the number line and the hundred square, to work with decimal fractions.



In this lesson, students explore different ways to decompose decimal fractions involving thousandths.

Ideas for Home

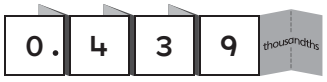
- Talk about the price of items when shopping. Our monetary system gives your child real-world connections to decimal fractions with tenths and hundredths.
- Look up numbers with decimals related to your child's favorite sports, like running or swimming times, gymnastics or diving scores, or baseball batting averages. Practice reading the numbers aloud, emphasizing words like *tenths*, *hundredths*, and *thousandths*.

Glossary

- This table shows the different representations for **decimal fractions**.

Fraction Words	Ones	Tenths	Hundredths	Thousandths	Decimal Fraction	Common Fraction
one-tenth	0	1	0	0	0.1	$\frac{1}{10}$
one-hundredth	0	0	1	0	0.01	$\frac{1}{100}$
one-thousandth	0	0	0	1	0.001	$\frac{1}{1000}$

- Just as a **numeral expander** works for values greater than one, it can also show multiples of ten that are less than one.



Helpful video

View these short one-minute videos to see these ideas in action.

www.bit.ly/O1_28
www.bit.ly/O1_18

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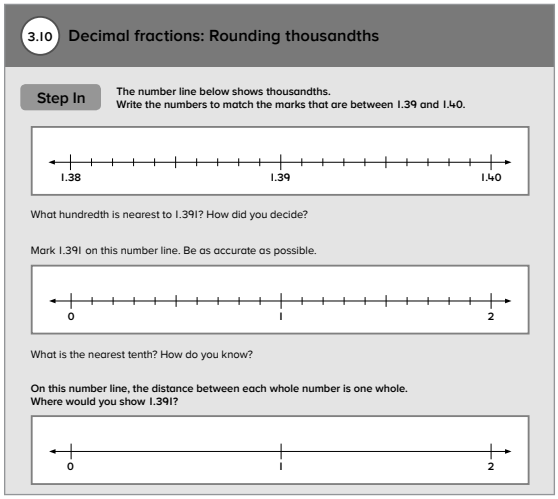
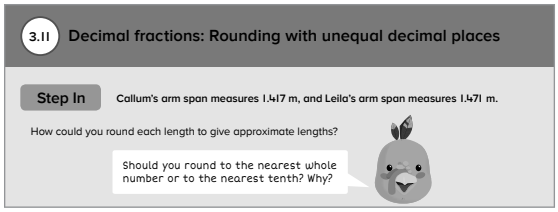
Unequal decimal places

- Students compare and order decimal fractions with up to three decimal places (tenths, hundredths, and thousandths), just like they earlier learned to compare and order whole numbers, using **number lines** and other visual tools.
- Thinking about where the decimal fractions would be on a number line helps when comparing, as does imagining a picture (a square divided into tenths and hundredths).
- Students pay attention to place value to compare like quantities. Comparing 0.6 and 0.583 as thousandths (i.e. 0.600 and 0.583) helps students see that 0.6 is greater than 0.583.



In this lesson students round decimal fractions with three-decimal places to the nearest whole number, tenth, or hundredth.



In this lesson, students round decimal fractions with up to three decimal places to the nearest whole number or tenth.

Ideas for Home

- Race results from your local high school's swim and track meets are reported as decimal fractions. Ask your child to read and compare the athletes' times.

Glossary

- By letting students visualize where decimal fractions sit in relation to one another on a **number line**, common mistakes can be avoided, like thinking that 0.51 is less than 0.122.