Unit 2 Family Support Materials

Fraction Equivalence and Comparison

In this unit, students deepen their knowledge of fractions. They explore the sizes of fractions, write equivalent fractions, and compare and order fractions with the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.

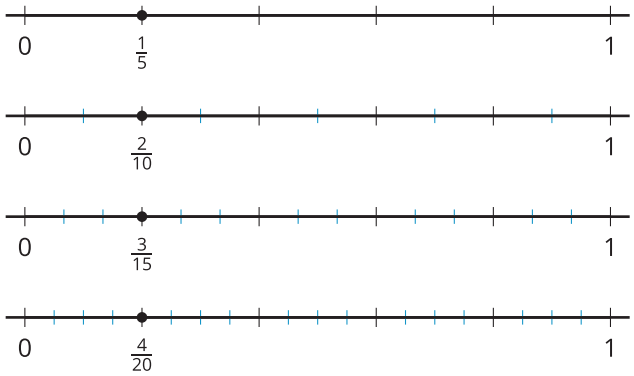
Section A: Size and Location of Fractions

In this section, students revisit the meaning of "fraction." They use fraction strips, tape diagrams, and number lines to represent fractions. Students compare fractions that have the same numerator or the same denominator, and recall that equivalent fractions have the same size.

Students consider the sizes of fractions with denominators that are related, such as $\frac{1}{5}$ and $\frac{1}{10}$, or $\frac{1}{6}$ and $\frac{1}{12}$. They also compare fractions to benchmarks such as $\frac{1}{2}$ and 1. (For instance, they see that $\frac{3}{10}$ is less than $\frac{1}{2}$ and $\frac{3}{5}$ is greater than $\frac{1}{2}$.)

Section B: Equivalent Fractions

Here, students take a closer look at equivalent fractions and reason using number lines. They show that fractions at the same point on the number line are equivalent.



Students then learn to tell if two fractions are equivalent, without using number lines.

For example, they can explain that the fraction $\frac{2}{3}$ is equivalent to $\frac{8}{12}$ because the numerator and the denominator of $\frac{2}{3}$ are each multiplied by the number, 4, to get $\frac{8}{12}$. Students use such observations to identify and write equivalent fractions.

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Section C: Fraction Comparison

In this section, students compare fractions that have different numerators and different denominators, using various strategies. For example, they may think of the fractions in terms of the same denominator, how far each fraction is from 0 on a number line, or how each fraction compares to $\frac{1}{2}$ or 1.

Students record the results of comparisons with symbols $>$, $<$, or $=$. They then solve problems that involve comparing fractional measurements, such as lengths in fractions of an inch.

Try it at home!

Near the end of the unit, ask your fourth grader to compare $\frac{3}{5}$ and $\frac{3}{7}$.

Questions that may be helpful as they work:

- How are the two fractions alike? How are they different?
- What strategy did you use to compare?
- Is there a different strategy that you could use to compare?

Solution:

$\frac{3}{5}$ is greater than $\frac{3}{7}$.

Sample responses:

- They have the same numerator. They have different denominators.
- I know that a fifth is greater than a seventh because when a whole is split into fewer pieces, the size of each piece is greater. So 3 fifths is greater than 3 sevenths.
- I can also use a benchmark to compare. I know that $\frac{3}{5}$ will be greater than $\frac{1}{2}$ and $\frac{3}{7}$ will be less than $\frac{1}{2}$. That means $\frac{3}{5}$ is greater than $\frac{3}{7}$.

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