Unit 2, Lesson 11

Use Factors to Find Equivalent Fractions

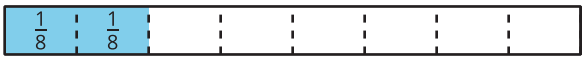
Let's find equivalent fractions by working with numerators and denominators.

Warm-up

Which Three Go Together: Four Representations

Which 3 go together?

A



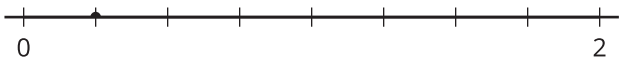
B



C

$\frac{1}{4}$

D



Activity 1

The Other Way Around

1. Andre drew this number line and marked a point on it. Label the point with the fraction it represents.



2. To find other fractions that the point represents, Andre made copies of the number line. He made some of the existing tick marks longer.

   Label the longer tick marks Andre made on each number line.
   Use a different denominator for each number line.

   a.



   b.



3. Kiran wrote the same fractions for the points that Andre did. But Kiran used a different strategy. Analyze his reasoning.

$$\frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$

$$\frac{8 \div 2}{12 \div 2} = \frac{4}{6}$$

   How do you think Andre's and Kiran's strategies are related?

4. Try using Kiran's strategy to find 1 or more fractions that are equivalent to $\frac{10}{12}$ and $\frac{18}{12}$.

Activity 2

How Would You Find Them?

Find at least 2 fractions that are equivalent to each fraction. Show your reasoning.

1. $\frac{16}{8}$

2. $\frac{40}{10}$

3. $\frac{7}{6}$

4. $\frac{90}{100}$

5. $\frac{5}{4}$

Activity 3

Card Sort: Fractions Galore

Your teacher will give you a set of cards.

Sort the cards by finding as many equivalent fractions as you can. Be ready to explain or show your reasoning.

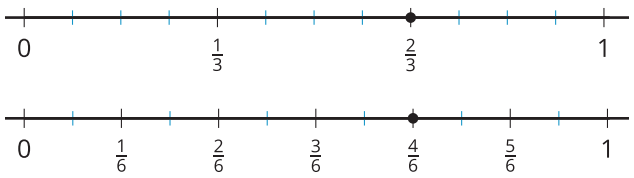
Record the sets of equivalent fractions here.

Record fractions that do *not* have an equivalent fraction in the cards here.

Section B Summary

We learned to identify and write **equivalent fractions**. We represented fractions on number lines. We saw that two fractions that occupy the same spot on a number line are equivalent.

Example:



We also looked at strategies for finding equivalent fractions. We learned that multiplying or dividing the numerator and denominator by the same number will result in an equivalent fraction.

Examples:

$$\frac{1 \times 2}{5 \times 2} = \frac{2}{10}$$

$$\frac{1 \times 4}{5 \times 4} = \frac{4}{20}$$

$\frac{1}{5}$ is equivalent to $\frac{2}{10}$ and $\frac{4}{20}$.

$$\frac{8 \div 2}{12 \div 2} = \frac{4}{6}$$

$$\frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$

$\frac{8}{12}$ is equivalent to $\frac{4}{6}$ and $\frac{2}{3}$.