Unit 2, Lesson 10

Use Multiples to Find Equivalent Fractions

Let's look at a way to find equivalent fractions without using diagrams.

Warm-up

Notice and Wonder: Four Equations

What do you notice? What do you wonder?

- $\frac{1}{3} = \frac{2}{6}$

- $\frac{2}{3} = \frac{4}{6}$

- $\frac{3}{3} = \frac{6}{6}$

- $\frac{4}{3} = \frac{8}{6}$

Activity 1

Elena's Way

Elena thought of another way to find equivalent fractions. She wrote:

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

$$\frac{1 \times 3}{5 \times 3} = \frac{3}{15}$$

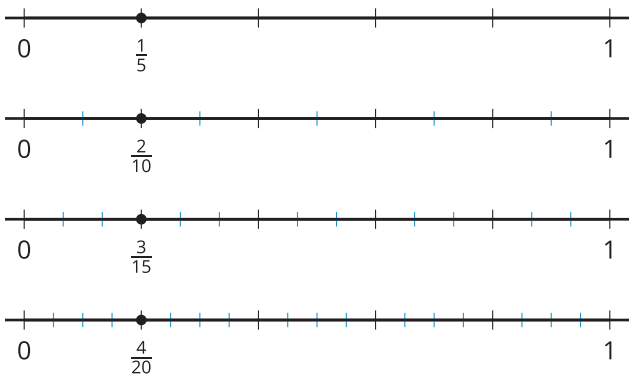
$$\frac{1 \times 4}{5 \times 4} = \frac{4}{20}$$

$$\frac{1 \times 5}{5 \times 5} = \frac{5}{25}$$

$$\frac{1 \times 10}{5 \times 10} = \frac{10}{50}$$

1. Analyze Elena's work. Then discuss these questions with a partner:

   a. How are Elena's equations related to Andre's number lines?



   b. How might Elena find other fractions that are equivalent to $\frac{1}{5}$? Show 2 examples.

2. Use Elena's strategy to find 5 fractions that are equivalent to $\frac{1}{8}$. Use number lines to check your thinking, if they help.

Activity 2

Equivalence Hunting

Look at Elena's strategy from an earlier activity.

1. Could her strategy help you know whether 2 fractions are equivalent? Try using it to check the equivalence of the following pairs of fractions. If they are equivalent, write an equation to show it.

   a. $\frac{5}{2}$ and $\frac{10}{8}$

   b. $\frac{2}{6}$ and $\frac{4}{12}$

2. Find all fractions in the list that are equivalent to $\frac{3}{4}$. Be prepared to explain or show how you know.

$\frac{2}{10}$	$\frac{6}{8}$	$\frac{12}{15}$	$\frac{30}{40}$
$\frac{8}{9}$	$\frac{12}{20}$	$\frac{12}{16}$	$\frac{15}{20}$
$\frac{8}{10}$	$\frac{24}{32}$	$\frac{75}{100}$	$\frac{60}{80}$