Unit 2, Lesson 8

Equivalent Fractions on the Number Line

Let's use number lines to reason about equivalent fractions.

Warm-up

Estimation Exploration: A Shaded Portion

The whole diagram represents 1. What fraction of the diagram is shaded?



Make an estimate that is:

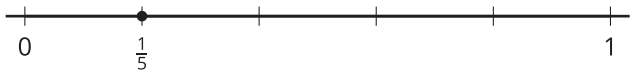
too low	about right	too high

Activity 1

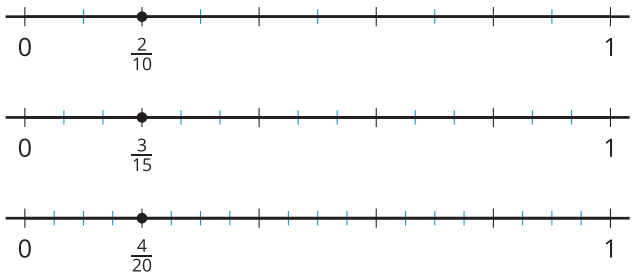
Handy Number Lines

Andre used number lines to find fractions that are equivalent to $\frac{1}{5}$.

He drew this number line:



Then he drew 3 copies of the number line. He wrote a different fraction for the same point on each line:



1. How did Andre use the number lines to find fractions equivalent to $\frac{1}{5}$? Explain your thinking to a partner.
2. How can number lines be used to show whether these pairs of fractions are equivalent?
   a. $\frac{8}{10}$ and $\frac{4}{5}$

   b. $\frac{14}{20}$ and $\frac{4}{5}$
3. Find 3 fractions that are equivalent to $\frac{6}{5}$. Explain or show how Andre's number lines can help.

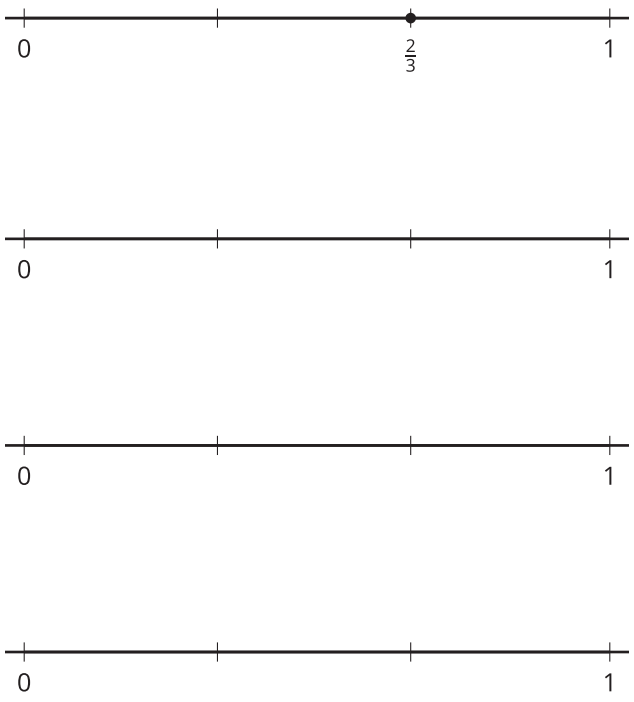
Activity 2

Can It Be Done?

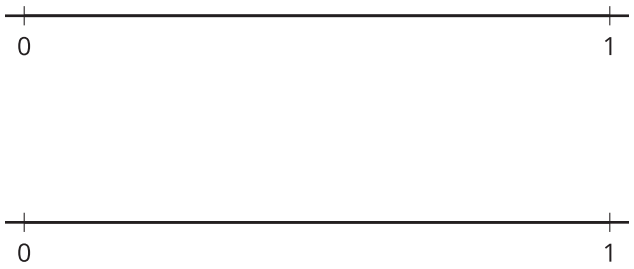
1. Priya wants to find fractions that are equivalent to $\frac{2}{3}$, other than $\frac{4}{6}$. She wonders if she can find equivalent fractions with denominators 9, 10, and 12.

   $\frac{\quad}{9}$ $\frac{\quad}{10}$ $\frac{\quad}{12}$

   Can it be done? Use number lines to show your reasoning.



2. Represent $\frac{1}{10}$ on a number line. Then find 2 fractions that are equivalent to $\frac{1}{10}$. How would you use the number lines to show that they are equivalent to $\frac{1}{10}$?



3. Can you find an equivalent fraction for $\frac{1}{10}$ with 100 for the denominator? Explain or show your reasoning.