

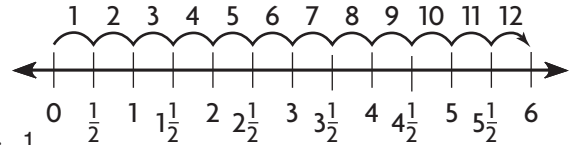
Name \_\_\_\_\_

## Divide Fractions and Whole Numbers

You can use a number line to help you divide a whole number by a fraction.

**Divide.**  $6 \div \frac{1}{2}$

**Step 1** Draw a number line from 0 to 6. Divide the number line into halves. Label each half on your number line, starting with  $\frac{1}{2}$ .



**Step 2** Skip count by halves from 0 to 6 to find  $6 \div \frac{1}{2}$ .

**Step 3** Count the number of skips. It takes **12** skips to go from 0 to 6. So the quotient is 12.

$$6 \div \frac{1}{2} = \underline{12} \text{ because } \underline{12} \times \frac{1}{2} = 6.$$

You can use fraction strips to divide a fraction by a whole number.

**Divide.**  $\frac{1}{2} \div 5$

**Step 1** Place a  $\frac{1}{2}$  strip under a 1-whole strip.

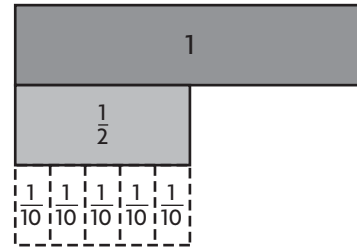
**Step 2** Find 5 fraction strips, all with the same denominator, that fit exactly under the  $\frac{1}{2}$  strip.

Each part is  $\frac{1}{10}$  of the whole.

**Step 3** Record and check the quotient.

$$\frac{1}{2} \div 5 = \frac{1}{10} \text{ because } \frac{1}{10} \times 5 = \frac{1}{2}.$$

So,  $\frac{1}{2} \div 5 = \underline{\frac{1}{10}}$ .



**Divide. Draw a number line or use fraction strips.**

1.  $1 \div \frac{1}{2} = \underline{\hspace{2cm}}$

2.  $2 \div \frac{1}{3} = \underline{\hspace{2cm}}$

3.  $4 \div \frac{1}{4} = \underline{\hspace{2cm}}$

4.  $\frac{1}{5} \div 3 = \underline{\hspace{2cm}}$

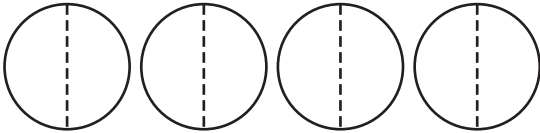
5.  $\frac{1}{3} \div 2 = \underline{\hspace{2cm}}$

6.  $4 \div \frac{1}{5} = \underline{\hspace{2cm}}$

Name \_\_\_\_\_

## Problem Solving • Use Multiplication

Nathan makes 4 batches of soup and divides each batch into halves. How many  $\frac{1}{2}$ -batches of soup does he have?

Read the Problem	Solve the Problem
<p><b>What do I need to find?</b> I need to find <u>the number of</u> <u><math>\frac{1}{2}</math>-batches of soup Nathan</u> <u>has</u>.</p>	<p>Since Nathan makes 4 batches of soup, my diagram needs to show 4 circles to represent the 4 batches. I can divide each of the 4 circles in half.</p> 
<p><b>What information do I need to use?</b> I need to use the size of each <u>batch of</u> <u>soup</u> and the total number of <u>batches</u> of soup Nathan makes.</p>	
<p><b>How will I use the information?</b> I can <u>make a diagram</u> to organize the information from the problem. Then I can use the diagram to find <u>the number</u> <u>of <math>\frac{1}{2}</math>-batches of soup</u> <u>Nathan has after he divides</u> <u>the 4 batches of soup</u>.</p>	<p>To find the total number of halves in the 4 batches, I can multiply 4 by the number of halves in each circle.</p> $4 \div \frac{1}{2} = 4 \times \underline{2} = \underline{8}$ <p>So, Nathan has <u>8</u> one-half-batches of soup.</p>

Draw a diagram to help you solve the problem.

- A nearby park has 8 acres of land to use for gardens. The park divides each acre into fourths. How many  $\frac{1}{4}$ -acre gardens does the park have?
- Clarissa has 3 pints of ice tea that she divides into  $\frac{1}{2}$ -pint servings. How many  $\frac{1}{2}$ -pint servings does she have?

Name \_\_\_\_\_

## Connect Fractions to Division

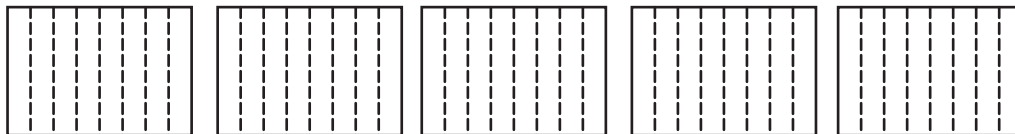
You can write a fraction as a division expression.

$$\frac{4}{5} = 4 \div 5 \qquad \frac{15}{3} = 15 \div 3$$

There are 8 students in a wood-working class and 5 sheets of plywood for them to share equally. What fraction of a sheet of plywood will each student get?

**Divide.  $5 \div 8$       Use a drawing.**

**Step 1** Draw 5 rectangles to represent 5 sheets of plywood. Since there are 8 students, draw lines to divide each piece of plywood into eighths.



Each student's share of 1 sheet of plywood is  $\frac{1}{8}$ .

**Step 2** Count the total number of eighths each student gets. Since there are 5 sheets of plywood, each student will get 5 of the eighths, or  $\frac{5}{8}$ .

**Step 3** Complete the number sentence.

$$5 \div 8 = \frac{5}{8}$$

**Step 4** Check your answer.

$$\text{Since } \frac{5}{8} \times 8 = 5, \text{ the quotient is correct.}$$

So, each student will get  $\frac{5}{8}$  of a sheet of plywood.

**Complete the number sentence to solve.**

- Ten friends share 6 pizzas equally. What fraction of a pizza does each friend get?
- Four students share 7 sandwiches equally. How much of a sandwich does each student get?

$$6 \div 10 = \underline{\hspace{2cm}}$$

$$7 \div 4 = \underline{\hspace{2cm}}$$