Dimensions Math
Grade 5 Letter Home #6

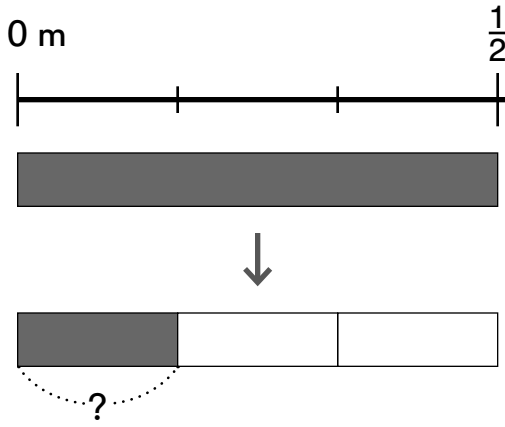
Chapter 6 Division of Fractions

Dimensions Math
Letters Home

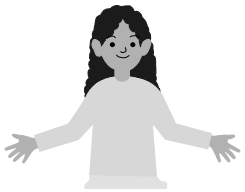
Home Connection

In Chapter 6, your child will learn how to divide a fraction by a whole number and a whole number by a fraction. Students begin by dividing a fraction by a whole number.

$\frac{1}{2} \div 3$



Dividing by 3 is the same as multiplying by $\frac{1}{3}$.
$\frac{1}{3}$ is the reciprocal of 3.

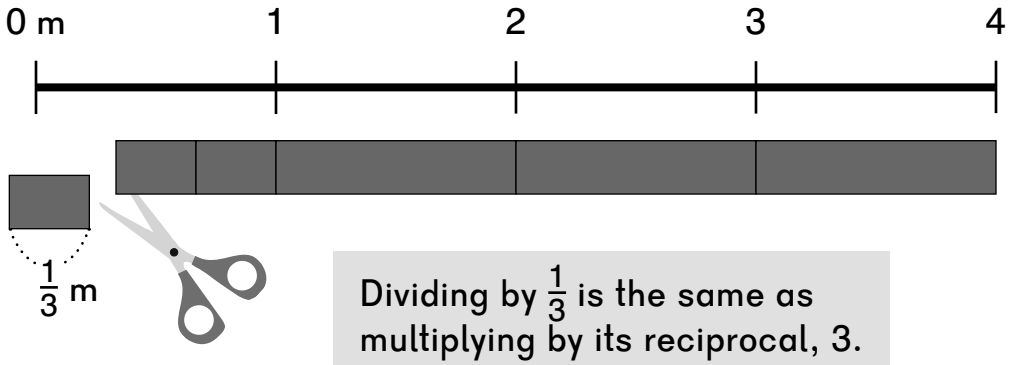


$\frac{1}{2} \div 3 = \frac{1}{3}$ of $\frac{1}{2}$

$= \frac{1}{3} \times \frac{1}{2}$

$= \frac{1}{6}$

Students will then learn how to divide a whole number by a fraction. This can be a little tricky at first. For example, we can think of $4 \div \frac{1}{3}$ as determining how many $\frac{1}{3}$ sized pieces there are in 4 wholes.



Dividing by $\frac{1}{3}$ is the same as multiplying by its reciprocal, 3.

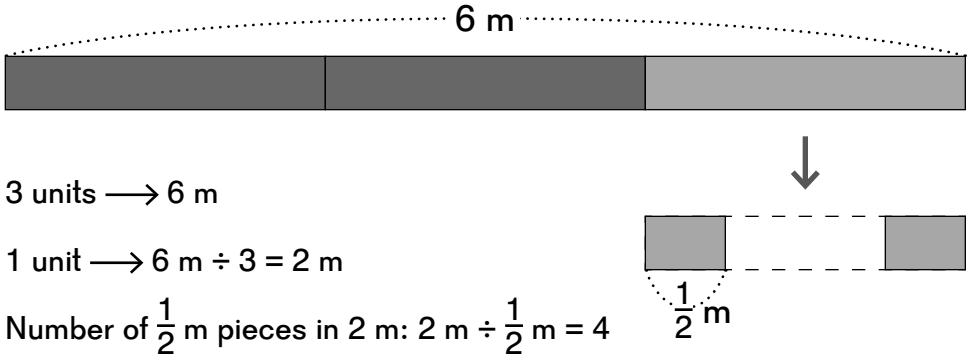
$1 \div \frac{1}{3} = 3$

$4 \div \frac{1}{3} = 4 \times 3$

$= 12$

Finally, your child will learn to solve multi-step word problems involving the division of a fraction and a whole number. Bar models can be helpful to solve this type of problem.

Alex had 6 m of ribbon. He used $\frac{2}{3}$ of it to wrap presents and the rest of it to make bows. He used $\frac{1}{2}$ m of ribbon for each bow. How many bows did he make?



3 units ⟶ 6 m

1 unit ⟶ 6 m ÷ 3 = 2 m

Number of $\frac{1}{2}$ m pieces in 2 m: 2 m ÷ $\frac{1}{2}$ m = 4

OR

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

$\frac{1}{3} \times 6 \text{ m} = 2 \text{ m}$

$2 \text{ m} \div \frac{1}{2} \text{ m} = 4$

By the end of Chapter 6, your child should conceptually understand why we multiply by the reciprocal when it comes to dividing fractions. In Dimensions Math 6, students will learn to divide a fraction by a fraction.

What can we do at home?

- A fun way to practice dividing fractions is playing fraction math games. One is called "Fraction 3 in a Row," and the game is attached to this letter. You'll need a die and something to cover the spaces with.
- "Greatest Quotient" is another fun game using 1–9 number cards (these can be made with blank notecards). Each player gets three cards. Two are used to make a fraction, and the third is the divisor. Divide the numbers and the player with the greatest quotient (answer to a division problem) gets a point. Whoever gets five points first wins.

Fraction 3 in a Row

Directions: On each turn, roll a die and choose a problem from that column. If you solve the problem correctly, cover the square with a counter. The winner is the first player to mark 3 in a row, column, or diagonal.

					
$\frac{6}{9} \div 3$	$\frac{3}{5} \div 6$	$\frac{3}{4} \div 8$	$\frac{2}{9} \div 4$	$\frac{1}{3} \div 8$	$\frac{9}{10} \div 5$
$\frac{1}{6} \div 6$	$\frac{3}{8} \div 5$	$\frac{1}{3} \div 4$	$\frac{3}{4} \div 2$	$\frac{3}{6} \div 8$	$\frac{3}{6} \div 6$
$\frac{1}{3} \div 9$	$\frac{10}{11} \div 5$	$\frac{1}{4} \div 2$	$\frac{2}{6} \div 3$	$\frac{2}{3} \div 10$	$\frac{2}{5} \div 4$
$\frac{7}{4} \div 4$	$\frac{8}{3} \div 4$	$\frac{6}{5} \div 5$	$\frac{8}{5} \div 2$	$\frac{9}{6} \div 6$	$\frac{10}{11} \div 11$

Directions: On each turn, roll a die and choose a problem from that column. If you solve the problem correctly, cover the square with a counter. The winner is the first player to mark 3 in a row, column, or diagonal.

					
$\frac{4}{3} \div 8$	$\frac{3}{5} \div 6$	$\frac{9}{10} \div 5$	$\frac{3}{4} \div 8$	$\frac{6}{9} \div 3$	$\frac{2}{9} \div 4$
$\frac{2}{3} \div 4$	$\frac{3}{4} \div 2$	$\frac{3}{6} \div 8$	$\frac{3}{6} \div 6$	$\frac{4}{6} \div 6$	$\frac{3}{8} \div 5$
$\frac{2}{3} \div 10$	$\frac{2}{5} \div 4$	$\frac{1}{4} \div 2$	$\frac{1}{3} \div 9$	$\frac{10}{11} \div 5$	$\frac{2}{6} \div 3$
$\frac{10}{11} \div 11$	$\frac{9}{6} \div 6$	$\frac{8}{3} \div 4$	$\frac{6}{5} \div 5$	$\frac{8}{5} \div 2$	$\frac{7}{4} \div 4$