

Math Activities

Grade 5, Week 8

Fraction Multiplication

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Note: Some of this week's lessons require the use of hands-on tools or manipulatives. You can find them at:



Physical Manipulatives



Printable Manipulatives



Virtual Manipulatives with Brainingcamp

The Answer Key for this week's lessons can be found at:



Printable Answer Key

hand2mind-link.com/M5-AK-W8



Draw a model for each multiplication problem using Rainbow Fraction® Circles. Then, solve the problem and write the answer as a mixed number. You may not need to use all of the circles for your model.

$\frac{5}{8} \times 5 =$		$3 \frac{1}{8}$
$3 \times \frac{2}{4} =$		$1 \frac{2}{4}$
$\frac{1}{6} \times 9 =$		$1 \frac{3}{6}$
$3 \times \frac{4}{5} =$		$2 \frac{2}{5}$

Day 1 (continued)

Solve each multiplication problem and write the answer as a mixed number. Use the blank space to show your work.

$$3 \times \frac{7}{10} =$$

$$3 \times 7 \div 10 = 21 \div 10 = \frac{21}{10} = 2 \frac{1}{10}$$

$$12 \times \frac{2}{3} =$$

$$12 \times 2 \div 3 = 24 \div 3 = \frac{24}{3} = 8$$

$$\frac{5}{6} \times 10 =$$

$$5 \times 10 \div 6 = 50 \div 6 = \frac{50}{6} = 8 \frac{2}{6}$$

$$\frac{5}{8} \times 6 =$$

$$5 \times 6 \div 8 = 30 \div 8 = \frac{30}{8} = 3 \frac{6}{8}$$

$$5 \times \frac{7}{8} =$$

$$5 \times 7 \div 8 = 35 \div 8 = \frac{35}{8} = 4 \frac{3}{8}$$

$$4 \times \frac{11}{12} =$$

$$4 \times 11 \div 12 = 44 \div 12 = \frac{44}{12} = 3 \frac{8}{12}$$

What strategies can you use to multiply fractions? How is multiplying fractions similar to multiplying whole numbers?

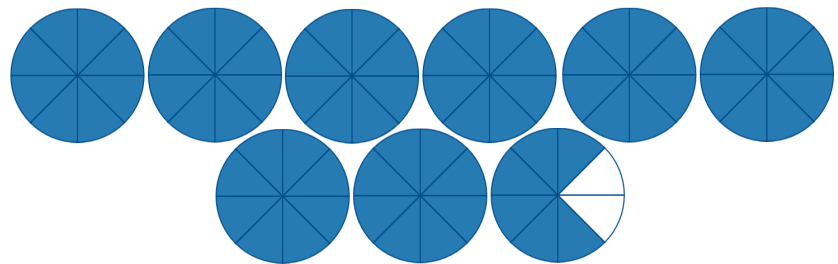
You can multiply the numerators of the fractions to get the new numerator. You can also multiply the denominators of the fractions to get the new denominator. Multiplying fractions is similar to multiplying whole numbers because you are multiplying the numerators and denominators together.



Solve each problem. Show your work in the empty space.
 Use Rainbow Fraction® Circles to help.

1. Kyle is running a marathon in 2 weeks. He is starting to decrease the length of his daily runs so his body will be in tip-top shape for the marathon. Every day, Kyle runs $\frac{7}{8}$ of the mileage of the prior day. If Kyle ran 10 miles yesterday, how far should he run today?

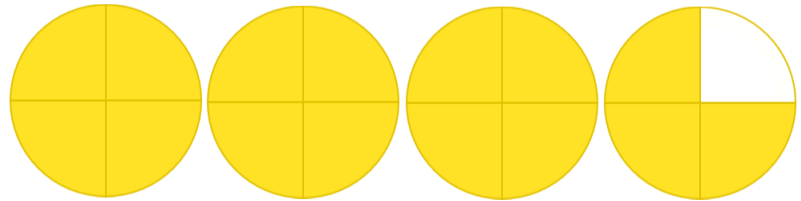
$$\frac{7}{8} \times 10$$



Kyle should run $\frac{6}{8}$ miles today.

2. Gianna is baking cookies for the school's bake sale. She needs to make 5 times her normal amount of cookies so she has enough for the bake sale. Gianna's recipe calls for $\frac{3}{4}$ cup of brown sugar. How much brown sugar will she need for the bake sale?

$$\frac{3}{4} \times 5$$



Gianna will need $\frac{3}{4}$ cups of brown sugar for the bake sale.

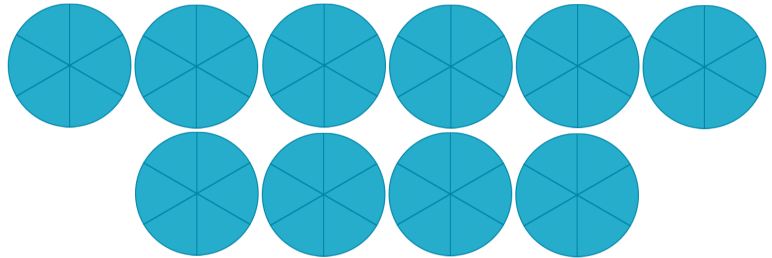


Day 2 (continued)

Solve each problem. Show your work in the empty space.
Use Rainbow Fraction® Circles to help.

1. Nadine is going out of town for 12 days. Before she leaves, she prepares the dog food for her dog, Ruff. Ruff eats $\frac{5}{6}$ cups of dog food for dinner every night. How much dog food will Nadine need to set aside for Ruff's dinners?

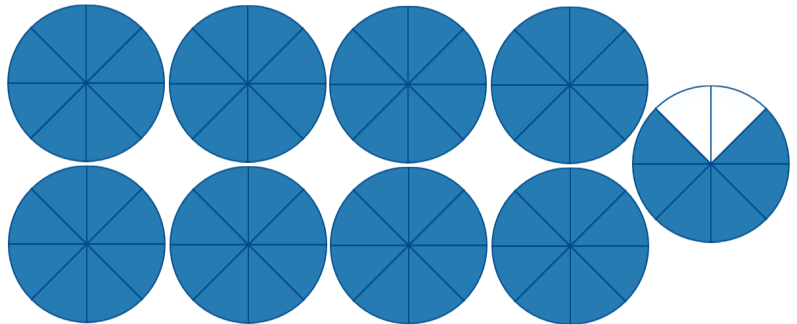
$$\begin{array}{r} 5 \\ - \times 12 \\ 6 \end{array}$$



Nadine should set aside 10 cups of dog food.

2. Otto walks $\frac{7}{8}$ miles each way to and from school every day. How many miles does Otto walk each week (Monday-Friday)?

$$\begin{array}{r} 7 \\ - \times 10 \\ 8 \end{array}$$



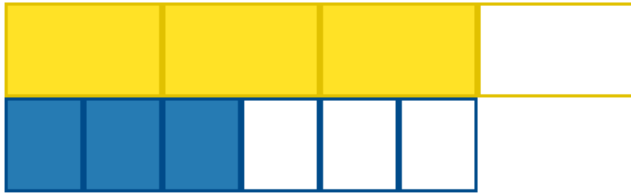
$$\begin{array}{r} 6 \\ 8 - \\ 8 \end{array}$$

Otto walks 6 miles each week.



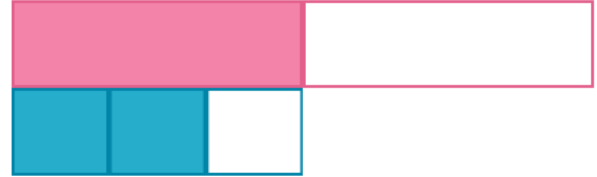
Write a number sentence for each problem. Then, solve the problem.
Use the model of Rainbow Fraction® Tiles to help.

What is $\frac{1}{2}$ of $\frac{3}{4}$?



$$\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$$

What is $\frac{2}{3}$ of $\frac{1}{2}$?



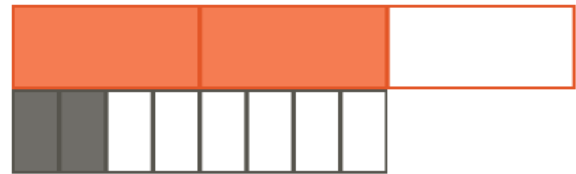
$$\frac{2}{3} \times \frac{1}{2} = \frac{2}{6}$$

What is $\frac{1}{2}$ of $\frac{1}{3}$?



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

What is $\frac{1}{4}$ of $\frac{2}{3}$?



$$\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$$

What is $\frac{1}{2}$ of $\frac{2}{5}$?



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

What is $\frac{1}{3}$ of $\frac{5}{6}$?



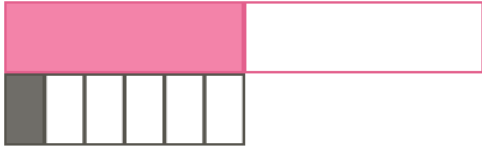
$$\frac{1}{3} \times \frac{5}{6} = \frac{5}{18}$$



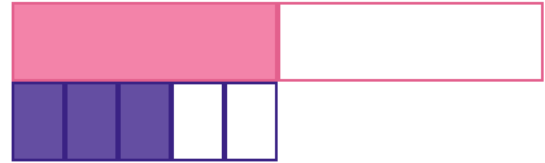
Day 3 (continued)

Find each product. Model the multiplication problem in the space provided using Rainbow Fraction® Circles or Rainbow Fraction® Tiles.

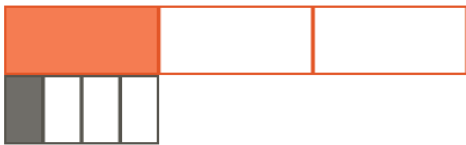
$$\frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$$



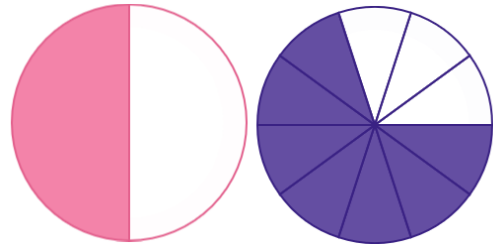
$$\frac{1}{2} \times \frac{3}{5} = \frac{3}{10}$$



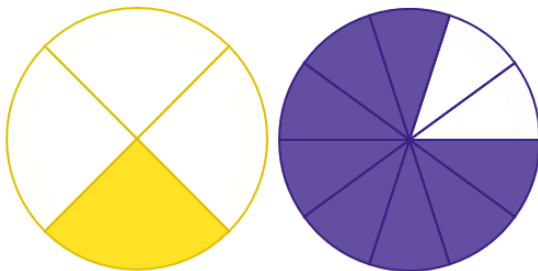
$$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$$



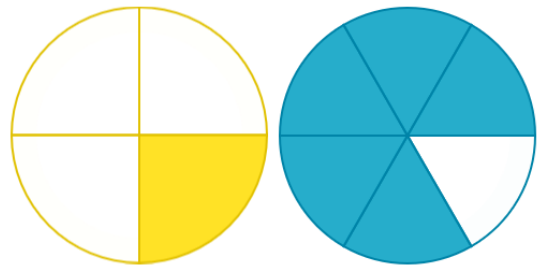
$$\frac{1}{2} \times \frac{7}{10} = \frac{7}{20}$$



$$\frac{1}{4} \times \frac{8}{10} = \frac{8}{40}$$



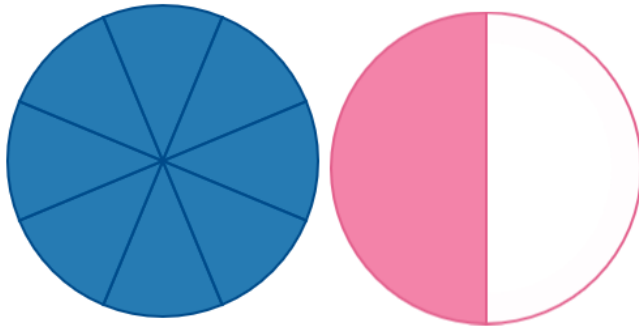
$$\frac{1}{4} \times \frac{5}{6} = \frac{5}{24}$$





Solve each problem. Show your work in the empty space.
 Use Rainbow Fraction® Circles or Rainbow Fraction® Tiles to help.

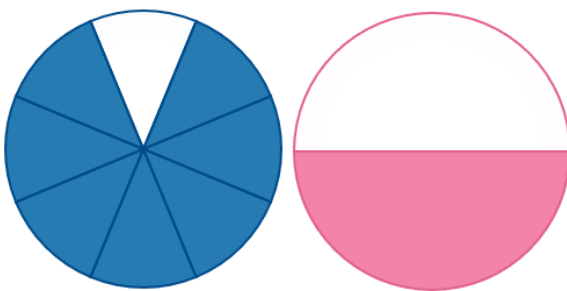
1. Ms. Simon's class is having a pizza party today. She cuts the pizza into 8 equal slices. At the end of the party, there is only $\frac{1}{2}$ slice of pizza left. How much of the total pizza is left over?



$$\begin{array}{r} 1 \rightarrow 1 \\ \hline 8 \rightarrow 2 \end{array} \times \frac{1}{2}$$

There is $\frac{1}{16}$ of the pizza left over.

2. Gus is an assistant chef at the Pizza Pantry. At the beginning of his shift, he notices that there is $\frac{7}{8}$ kilograms of flour left. During his shift, he uses $\frac{1}{2}$ of the flour. How much flour is left now?



$$\begin{array}{r} 7 \rightarrow 1 \\ \hline 8 \rightarrow 2 \end{array} \times \frac{1}{2}$$

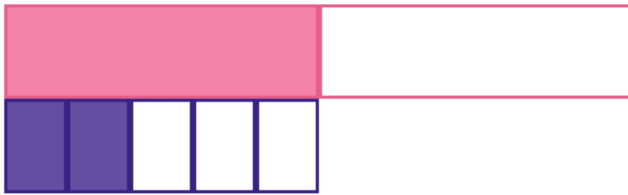
There is $\frac{7}{16}$ kilograms of flour left.



Day 4 (continued)

Solve each problem. Show your work in the empty space.
Use Rainbow Fraction® Circles or Rainbow Fraction® Tiles to help.

3. The day after her birthday party, Carol sees that $\frac{1}{2}$ of the cake is remaining. That night, Carol and her family eat $\frac{2}{5}$ of the remaining cake. How much cake is left now?



$$\begin{array}{r} 1 \rightarrow 2 \\ \hline 2 \rightarrow 5 \end{array} \times \frac{2}{5}$$

There is $\frac{2}{10}$ cake remaining now.

4. Rhonda is $\frac{1}{3}$ of the way through her favorite movie. Before bed, Rhonda watches $\frac{3}{4}$ of the rest of the film. How much of the movie did Rhonda watch before bed?



$$\begin{array}{r} 1 \rightarrow 3 \\ \hline 3 \rightarrow 4 \end{array} \times \frac{3}{4}$$

Rhonda watched $\frac{3}{12}$ of the movie before bed.



Complete each multiplication number sentence. Then, draw a model of the multiplication problem.

$\frac{1}{2} \times \frac{5}{6} = \frac{5}{12}$	$\frac{2}{3} \times \frac{2}{3} = \frac{4}{9}$
$\frac{1}{3} \times \frac{4}{5} = \frac{4}{15}$	$\frac{1}{4} \times \frac{3}{6} = \frac{3}{8}$
$\frac{4}{5} \times \frac{4}{5} = \frac{16}{25}$	$\frac{7}{8} \times \frac{1}{6} = \frac{7}{12}$
$\frac{2}{3} \times \frac{9}{10} = \frac{3}{5}$	$\frac{7}{8} \times \frac{1}{2} = \frac{7}{16}$



Day 5 (continued)

Write 2 possible number sentences for each multiplication problem. Some problems may require the use of fractions where the numerator is greater than the denominator.

	Number Sentence 1	Number Sentence 2
$\frac{\boxed{4}}{5} \times \frac{\boxed{3}}{8} = \frac{12}{40}$	$\frac{12}{5} \times \frac{1}{8}$	$\frac{6}{5} \times \frac{2}{8}$
$\frac{\boxed{2}}{5} \times \frac{\boxed{9}}{10} = \frac{18}{50}$	$\frac{3}{5} \times \frac{6}{10}$	$\frac{18}{5} \times \frac{1}{10}$
$\frac{\boxed{2}}{3} \times \frac{\boxed{14}}{10} = \frac{28}{30}$	$\frac{28}{3} \times \frac{1}{10}$	$\frac{4}{3} \times \frac{7}{10}$
$\frac{\boxed{10}}{12} \times \frac{\boxed{2}}{5} = \frac{20}{60}$	$\frac{5}{12} \times \frac{4}{5}$	$\frac{1}{12} \times \frac{20}{5}$
$\frac{\boxed{8}}{10} \times \frac{\boxed{3}}{8} = \frac{24}{80}$	$\frac{24}{10} \times \frac{1}{8}$	$\frac{4}{10} \times \frac{6}{8}$