Super-Journal Week 3:5

Every night, you should be reading at least 30 minutes of whatever book you have checked out from your assigned reading list. Tape or glue (but do not staple) this sheet into your Super-Journal on the left-side page. Fill in the table below *every day* by recording the required data.

Day	Title	Start Pg.	End Pg.	Parent Sign.
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Sunday				

On the right-side page of your Super-Journal, answer two of the questions below throughout the week. Be sure that the questions you choose to answer go with the appropriate type of book (Fiction or Nonfiction). The Super-Journal is due on the first day after the weekend (usually Monday). To earn credit for your journal entry, you *must* respond in at least five complete sentences per response and use **specific evidence from the text to support your claim** based on what you've read this week.

FICTION

1. Who is telling the story in the selection?
2. Is the selection/story written in the first or third person? How do you know?

NONFICTION

1. Who is providing the information?
2. Is the information provided from a firsthand or secondhand account? How do you know?

RL.2.6/RI.2.6

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RL.2.6/RI.2.6

Lesson 10-1 • Reinforce Understanding

Predict Products of Fractions

Name _____

Review

One way to determine whether a product will be greater than or less than the starting value is to consider a product that you know.

Multiply by **a whole number** Example × 5	John has 5 times as many points as Ed. John has more points.	The product will be greater than the starting amount.
Multiply by a fraction **less than 1** Example × $\frac{1}{2}$	John has half as many points as Ed. John has less points.	The product will be less than the starting amount.
Multiply by a fraction **greater than 1** Example × $\frac{3}{2}$ (or $1\frac{1}{2}$)	John has one and a half times as many points as Ed. John has more points.	The product will be more than the starting amount.

Which numbers will result in a product greater than the factor shown? Select all that are correct.

1. 2 × _____

A. 1	**D.** 5
B. $\frac{4}{3}$	**E.** $\frac{5}{7}$
C. $\frac{1}{2}$	**F.** 0

2. $\frac{5}{3}$ × _____

A. 1	**D.** 3
B. $\frac{3}{5}$	**E.** $\frac{1}{3}$
C. $\frac{8}{3}$	**F.** $\frac{8}{5}$

Which numbers will result in a product less than the factor shown? Select all that are correct.

3. $1\frac{2}{3}$ × _____

A. 1	**D.** 0
B. 2	**E.** $\frac{2}{3}$
C. $\frac{5}{2}$	**F.** $\frac{3}{5}$

4. $\frac{6}{7}$ × _____

A. $\frac{6}{7}$	**D.** $\frac{7}{6}$
B. 1	**E.** $\frac{9}{5}$
C. $\frac{3}{4}$	**F.** $\frac{3}{2}$

Lesson 10-1

Additional Practice

Name _____

Review

You can predict whether a product will be greater or less than one of the factors without performing the multiplication.

The rosebush is 2 feet tall. The sunflower is $1\frac{1}{2}$ times as tall as the rosebush. The tulip is $\frac{7}{8}$ the height of the rosebush. What is the order of the flowers from shortest to tallest?

Flower	Height	
Rosebush	2 feet	
Sunflower	$2 \times 1\frac{1}{2}$; taller than rosebush	When multiplying by a factor greater than 1, such as $1\frac{1}{2}$, the answer will be greater than the factor.
Tulip	$2 \times \frac{7}{8}$; shorter than rosebush	When multiplying by a factor less than 1, such as $\frac{7}{8}$, the answer will be less than the factor.
From shortest to tallest, the order of the flowers is tulip, rosebush, and sunflower.		

1. Which expressions have a value greater than 38? Choose all that apply.

   A. $38 \times \frac{3}{2}$

   B. $38 \times \frac{4}{3}$

   C. $38 \times \frac{5}{8}$

   D. $38 \times \frac{5}{2}$

   E. $38 \times \frac{10}{6}$

   F. $38 \times \frac{3}{7}$

Circle the lesser expression.

2. $7 \times \frac{9}{10}$ or $7 \times \frac{5}{2}$

3. $15 \times \frac{6}{5}$ or $15 \times \frac{5}{6}$

4. $\frac{1}{3} \times 2$ or $\frac{7}{5} \times 2$

5. $\frac{15}{4} \times 20$ or $\frac{12}{15} \times 20$

Write a fraction that makes each sentence true.

6. $\frac{1}{2} \times$ _____ $< \frac{1}{2}$

7. $\frac{8}{13} \times$ _____ $> \frac{8}{13}$

8. $\frac{15}{6} \times$ _____ $> \frac{15}{6}$

9. $\frac{7}{9} \times$ _____ $< \frac{7}{9}$

10. On Monday, Willie ran $3\frac{1}{2}$ miles. On Wednesday, he ran $\frac{3}{5}$ that distance. On Friday, he ran $1\frac{3}{5}$ times that distance. What is the order of the days from shortest run to longest run?

Math @ Home Activity

With your child, practice predicting whether a product will be greater than or less than a certain factor. For example, if the distance from your home to school is 2 miles, and your child's friend lives $\frac{1}{2}$ the distance from the school, have your child determine who lives farther from the school.

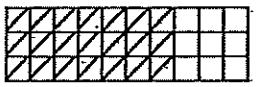
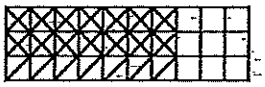
Represent Multiplication of a Fraction by a Fraction

Name _____

Review

To find a fraction of a fraction use an area model and partition the whole using each denominator.

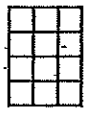
Consider the product $\frac{2}{3} \times \frac{7}{10}$.

STEP 1:	STEP 2:	STEP 3:
Make a 3 by 10 rectangle. 	Shade 7 out of the 10 columns. 	Shade 2 out of the 3 shaded rows. 

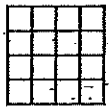
From the representation, we see $\frac{2}{3} \times \frac{7}{10} = \frac{14}{30}$.

What is the product? Fill in the area model to show your work. Then write the product.

1. $\frac{2}{3} \times \frac{2}{5} =$ _____ 

2. $\frac{3}{4} \times \frac{2}{3} =$ _____ 

3. $\frac{3}{5} \times \frac{1}{2} =$ _____ 

4. $\frac{3}{4} \times \frac{3}{4} =$ _____ 

5. $\frac{1}{3} \times \frac{4}{5} =$ _____ 

6. $\frac{1}{3} \times \frac{3}{4} =$ _____ 

Lesson 10-2

Additional Practice

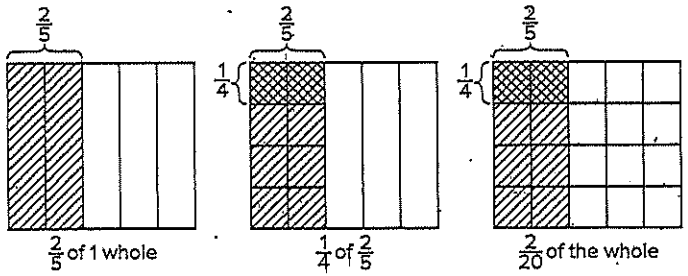
Name _____

Review

You can use an area model to multiply a fraction by a fraction. Use each denominator to partition the whole.

Find the product $\frac{1}{4} \times \frac{2}{5}$.

Partition the whole into fifths, and shade 2 of the fifths to show $\frac{2}{5}$. Then partition the shaded fifths into fourths, and shade 1 of the fourths. To make all of the pieces equal size, also partition the unshaded fifths into fourths. The double-shaded part of the area model is the product.



So $\frac{1}{4} \times \frac{2}{5} = \frac{2}{20}$.

What is the product? Use a representation to solve.

1. $\frac{3}{4} \times \frac{1}{2} =$ _____

2. $\frac{2}{3} \times \frac{5}{6} =$ _____

What is the product? Use a representation to solve.

3. $\frac{1}{3} \times \frac{4}{7} =$ _____

4. $\frac{2}{5} \times \frac{3}{4} =$ _____

5. $\frac{1}{2} \times \frac{2}{3} =$ _____

6. $\frac{5}{8} \times \frac{1}{3} =$ _____

7. $\frac{2}{5} \times \frac{3}{5} =$ _____

8. $\frac{5}{6} \times \frac{2}{3} =$ _____

9. Marlene has $\frac{3}{5}$ yard of string. She uses $\frac{2}{3}$ of the string for a project. What fraction of a yard of string does Marlene use?

_____ yard

10. Erica has $\frac{7}{8}$ gallon of water. She needs $\frac{3}{4}$ of the water to water her houseplant. What fraction of a gallon of water does Erica need for her houseplant?

_____ gallon

Math @ Home Activity

Cut out several paper squares. Write a fraction on each square. Turn the squares facedown and have your child select two of the squares. Have your child use a representation to multiply the two fractions, explaining to you how they made the representation and how it shows the result. Then return the squares to the pile and select two more. Repeat as time allows. Keep your representations and equations for the next lesson.

Lesson 10-3 • Reinforce Understanding

Multiply a Fraction by a Fraction

Name _____

Review

We can multiply the numerators and multiply the denominators to find the product of two fractions.

Consider $\frac{3}{5} \times \frac{4}{7}$.

Multiply 3 times 4 to find the numerator.

Multiply 5 times 7 to find the denominator.

$$\frac{3}{5} \times \frac{4}{7} = \frac{3 \times 4}{5 \times 7}$$

As a result, $\frac{3}{5} \times \frac{4}{7} = \frac{12}{35}$.

What is the product?

1. $\frac{2}{9} \times \frac{5}{11} =$

2. $\frac{4}{7} \times \frac{4}{9} =$

3. $\frac{3}{4} \times \frac{2}{5} =$

4. $\frac{2}{11} \times \frac{1}{3} =$

5. $\frac{8}{9} \times \frac{3}{4} =$

6. $\frac{4}{9} \times \frac{4}{9} =$

7. $\frac{3}{5} \times \frac{7}{10} =$

8. $\frac{5}{6} \times \frac{3}{8} =$

Lesson 10-3

Additional Practice

Name _____

Review

You can multiply a fraction by a fraction by multiplying the numerators and multiplying the denominators.

Allen lives $\frac{2}{5}$ mile from the park. He ran $\frac{3}{4}$ of the way to the park, then walked. How far did Allen run?

To solve, find $\frac{3}{4} \times \frac{2}{5}$.

Multiply the denominators of the factors to get the denominator of the product. Multiply the numerators of the factors to get the numerator of the product.

$\frac{3}{4} \times \frac{2}{5} = \frac{3 \times 2}{4 \times 5} = \frac{6}{20}$

Allen ran $\frac{6}{20}$ mile on the way to the park.

What is the product?

1. $\frac{2}{3} \times \frac{3}{5} =$ _____

2. $\frac{2}{4} \times \frac{5}{7} =$ _____

3. $\frac{4}{5} \times \frac{3}{7} =$ _____

4. $\frac{6}{11} \times \frac{5}{7} =$ _____

What is the product?

5. $\frac{1}{4} \times \frac{2}{3} =$ _____

6. $\frac{3}{5} \times \frac{3}{4} =$ _____

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

8. $\frac{4}{9} \times \frac{7}{9} =$ _____

9. $\frac{7}{10} \times \frac{2}{3} =$ _____

10. $\frac{4}{5} \times \frac{5}{6} =$ _____

11. A plant is $\frac{7}{8}$ foot tall. The plant next to it is $\frac{2}{3}$ as tall. How tall is the shorter plant?

_____ foot tall

12. Jessica has $\frac{5}{8}$ gallon of water. She drinks $\frac{2}{3}$ of it during a walk. How much water did Jessica drink?

_____ gallon

Math @ Home Activity

Use your models and equations from the previous lesson. Have your child multiply the fractions by multiplying the numerators and denominators. Compare the results to the previous results. Ask your child to explain what the product of the denominators represents (the total number of partitioned pieces) and what the product of the numerators represents (the number of double-shaded pieces).

Multiplying Unit Fractions to Find Area

20

Name: _____

Each multiplication problem is used to find the area of a rectangle. Write the missing digits in the boxes to make each multiplication problem true.

1. $\frac{1}{2} \times \frac{1}{8} = \frac{\square}{\square}$
2. $\frac{1}{3} \times \frac{1}{4} = \frac{\square}{\square}$
3. $\frac{1}{2} \times \frac{1}{3} = \frac{\square}{\square}$
4. $\frac{1}{5} \times \frac{1}{2} = \frac{\square}{\square}$
5. $\frac{1}{4} \times \frac{1}{4} = \frac{\square}{\square}$
6. $\frac{1}{8} \times \frac{1}{3} = \frac{\square}{\square}$
7. $\frac{1}{7} \times \frac{1}{2} = \frac{\square}{\square}$
8. $\frac{1}{3} \times \frac{1}{10} = \frac{\square}{\square}$
9. $\frac{1}{6} \times \frac{1}{5} = \frac{\square}{\square}$
10. $\frac{1}{3} \times \frac{1}{\square} = \frac{1}{9}$
11. $\frac{1}{\square} \times \frac{1}{2} = \frac{1}{12}$
12. $\frac{1}{4} \times \frac{1}{\square} = \frac{1}{24}$

13. Write missing digits in the boxes to make two different multiplication problems that are both true.

$\frac{1}{\square} \times \frac{1}{4} = \frac{1}{\square}$ $\qquad$ $\frac{1}{\square} \times \frac{1}{4} = \frac{1}{\square}$

Tiling a Rectangle to Find Area

20

Name: _____

Each multiplication problem is used to find the area of a rectangle. Write each product.

1. $\frac{1}{2} \times \frac{1}{3}$ _____
2. $\frac{1}{2} \times \frac{2}{3}$ _____
3. $\frac{3}{2} \times \frac{2}{3}$ _____
4. $\frac{1}{3} \times \frac{1}{4}$ _____
5. $\frac{1}{3} \times \frac{3}{4}$ _____
6. $\frac{5}{3} \times \frac{3}{4}$ _____
7. $\frac{3}{5} \times \frac{1}{2}$ _____
8. $\frac{3}{5} \times \frac{3}{2}$ _____
9. $\frac{6}{5} \times \frac{3}{2}$ _____
10. $\frac{3}{4} \times \frac{5}{6}$ _____
11. $\frac{5}{2} \times \frac{3}{8}$ _____
12. $\frac{7}{5} \times \frac{5}{4}$ _____

13. Describe how you could modify one tiling diagram to solve problems 1 through 3.

Lesson **10-5 • Reinforce Understanding**

Multiply Mixed Numbers

Name _____

Review

To multiply mixed numbers, you can write the mixed numbers as fractions. Consider $2\frac{1}{6} \times 3\frac{2}{3}$.

$2\frac{1}{6} \rightarrow 2 \times 6 = 12 + 1 = 13 \rightarrow \frac{13}{6}$

$3\frac{2}{3} \rightarrow 3 \times 3 = 9 + 2 = 11 \rightarrow \frac{11}{3}$

$\frac{13}{6} \times \frac{11}{3} = \frac{143}{18} = 7\frac{17}{18}$

As a result, $2\frac{1}{6} \times 3\frac{2}{3} = 7\frac{17}{18}$.

What is the product? Write your answer as a mixed number.

1. $5\frac{1}{2} \times 3\frac{3}{4} =$

2. $2\frac{1}{5} \times 4\frac{2}{3} =$

3. $3\frac{3}{5} \times 3\frac{3}{5} =$

4. $1\frac{5}{7} \times 2\frac{1}{3} =$

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

6. $1\frac{9}{10} \times 1\frac{2}{5} =$

7. $3\frac{1}{2} \times 5\frac{1}{2} =$

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

Lesson 10-5

Additional Practice

Name _____

Review

You can multiply mixed numbers by rewriting each mixed number as a fraction greater than 1.

A rectangular garden is $3\frac{1}{2}$ yards long and $2\frac{1}{4}$ yards wide. What is the area of the garden?

To solve, find the product of $3\frac{1}{2} \times 2\frac{1}{4}$.

Write each mixed number as a fraction greater than 1.

$3\frac{1}{2} = \frac{7}{2}$ and $2\frac{1}{4} = \frac{9}{4}$

Multiply the fractions and write the answer as a mixed number.

$\frac{7}{2} \times \frac{9}{4} = \frac{63}{8} = 7\frac{7}{8}$

The area of the garden is $7\frac{7}{8}$ square yards.

What is the product?

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

2. $1\frac{5}{8} \times 2\frac{2}{3} =$ _____

3. $1\frac{3}{5} \times 1\frac{1}{3} =$ _____

4. $4\frac{3}{4} \times 5\frac{2}{5} =$ _____

5. $4\frac{1}{2} \times 2\frac{4}{5} =$ _____

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

7. Walter ran $3\frac{2}{5}$ miles yesterday. Today he ran $1\frac{1}{2}$ times as far. How many miles did Walt run today?

_____ miles

8. Wanda bought a plant that was $1\frac{1}{4}$ inches tall. After two weeks, the plant was $2\frac{1}{2}$ times as tall. How tall was the plant after two weeks?

_____ inches

9. Jodie's backpack weighs $2\frac{3}{8}$ pounds. Jeff's backpack weighs $1\frac{3}{4}$ times as much as Jodie's backpack. How much does Jeff's backpack weigh?

_____ pounds

10. Kyla lives $1\frac{2}{3}$ miles from the park. The library is $2\frac{1}{3}$ times as far from Kyla's house. How far is the library from Kyla's house?

_____ miles

Math @ Home Activity

With your child, create a set of 9 number cards, each with one of the digits 1 through 9. Turn them facedown and have your child select 6 of the cards. Use the digits to form two mixed numbers. Write the mixed numbers as fractions greater than 1 and multiply. Try to get a product that is as great as possible and then rearrange the numbers to get a product that is as low as possible. Then replace the cards and repeat the activity.