



# Tier 3

## Intervention Lessons

5.NF.4b

**Learning Target:** I will multiply fractions

**Readiness for 6.NS.1:** Multiply and divide fractions

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# Tier 3 Intervention Planning Guide

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

<b>Recommended Actions</b>	
<b>Beginning</b> (5 min.)	<ul style="list-style-type: none"> <li>➤ Review the learning target with the whole group</li> <li>➤ Ask each student to set a goal for the day based on their previous Quick Check Score</li> <li>➤ Have each student use a highlighter to plot their goal for the day</li> </ul>
<b>Middle</b> (15 min.)	<ul style="list-style-type: none"> <li>➤ Model solving a word problem – “I do” (<i>Sessions 1, 3 and 6 only</i>)</li> <li>➤ Guided Practice – “We do”</li> </ul> <p><b>Sessions 1 and 2:</b> Fold and highlight squares to multiply fractions</p> <p><b>Sessions 3, 4 and 5:</b> Use drawings to multiply fractions</p> <p><b>Sessions 6, 7 and 8:</b> Use understanding of “parts of” fractions to multiply fractions</p>
<b>End</b> (10 min.)	<ul style="list-style-type: none"> <li>➤ Bring the students back together.</li> <li>➤ Ask students to reflect on their progress towards the learning target               <ul style="list-style-type: none"> <li>○ What did I learn today about multiplying fractions?</li> <li>○ How confident do I feel about multiplying fractions on my own? (Thumbs up, down, or sideways)</li> </ul> </li> <li>➤ Assess each student’s progress using the next <b>Quick Check</b> form</li> <li>➤ Guide students to self-correct their <b>Quick Check</b></li> <li>➤ Guide students to chart their progress in their <b>Growth Chart</b> <ul style="list-style-type: none"> <li>○ If not using Delta Math lessons, record the activity in the table</li> </ul> </li> <li>➤ Collect each student’s <b>Quick Check</b> and <b>Growth Chart</b></li> </ul>
<b>After Session 6</b>	<ul style="list-style-type: none"> <li>➤ Differentiation Options:               <ul style="list-style-type: none"> <li>○ Allow students who met the learning goal to work independently while others do the guided practice during the next session</li> <li>○ Exit students who met the learning goal for a third time</li> </ul> </li> <li>➤ Problem solve with a team to plan additional support for students who do not meet the learning goal within 8 sessions</li> </ul>



# Session 1: Modeling (I Do)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Last night, Benjamin's family ate one-half of a square pizza for dinner. The next day, Benjamin ate one-fourth of the left over pizza for his lunch. How much of the whole pizza did Benjamin eat for lunch?



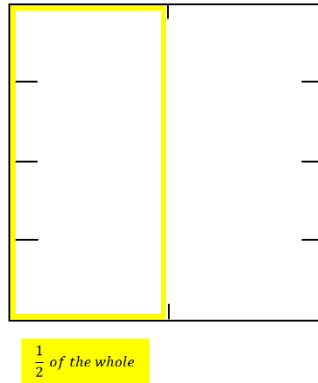
# Session 1: Modeling (I Do – Visual Support)

**Learning Target:** I will multiply fractions

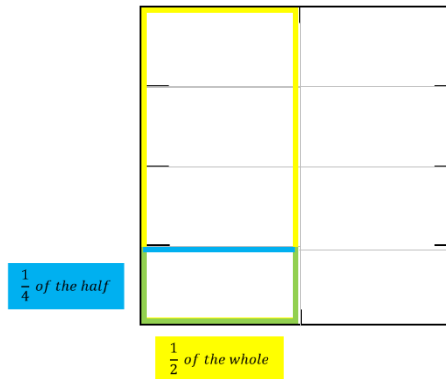
**Readiness** for multiplying and dividing fractions

Last night, Benjamin’s family ate one-half of a square pizza for dinner. The next day, Benjamin ate one-fourth of the left over pizza for his lunch. How much of the whole pizza did Benjamin eat for lunch?

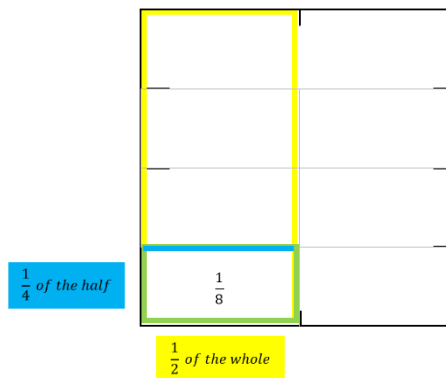
**Find 1 half of the whole**



**Find 1 fourth of the half**



**Find the part of the whole**



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

# Session 1: Modeling (I Do - Teacher Notes)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Last night, Benjamin’s family ate one-half of a square pizza for dinner. The next day, Benjamin ate one-fourth of the left over pizza for his lunch. How much of the whole pizza did Benjamin eat for lunch?

**I am going to think aloud to model solving this problem.**

**Your job is to watch, listen, think and ask questions.**

**First, it is important to know what the problem is about.**

**This problem is about Benjamin eating left-over pizza for lunch.**

**Second, I need to determine what I need to find.**

**I need to find how much of the original pizza he ate for lunch.**

**Third, I need to determine what I know.**

**I know that he ate 1-fourth of 1-half of the pizza.**

**Fourth, I need to figure out what I can try.**

**I am going to try modelling this situation using a square piece of paper.**

(Hold up a paper square, use upper right square on page 10, and write the multiplication problem.)

**I will begin by folding the square in half to represent the half of the pizza that was not eaten at dinner.**

(Fold the square in half and outline it using a yellow highlighter. Open the paper to show students that the highlighted area is half of the whole. Fold it back again to show the highlighted half for the next step.)

**Now I need to find 1 fourth of the half.**

(Fold the half into fourths, see drawing on page 8, and outline the bottom fourth using blue highlighter.)

**This bottom section represents the pizza that Benjamin ate...we need to find it’s fractional part of the whole.**

(Open the paper to reveal the whole.)

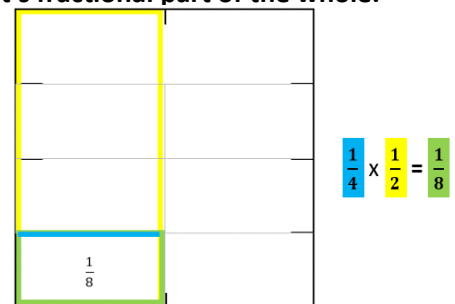
**I see that the whole is made up of 8 parts that are all equal to how much Benjamin ate for lunch.**

(Trace over the folds with a pencil and count the 8 sections.)

**Therefore, this section is equal to 1 eighth of the whole.**

(Point to the section and write  $\frac{1}{8}$  inside of it.)

**It looks like Benjamin ate 1 eighth of the whole pizza for lunch.**



**Last, I need to make sure that my answer makes sense.**

**I found that Benjamin ate 1 eighth of the whole pizza for lunch. It makes sense because I represented the pizza with a paper square and folded it to find how much of the whole he ate for lunch.**

**Finding 1 fourth of 1 half can be represented symbolically with the multiplication problem  $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ .**

(Write the equation and highlight each fraction.)

**During our guided practice, we will use fraction squares as tools to multiply fractions together.**



# Squares for Multiplying (Set 1)

**Directions:** Provide each student 2 sheets of squares for the Guided Practice.

**Note:** The teacher may use the upper right square for the Modeling problem.

**(We Do Together, problems 1-4)**

			Use for Problem 1				Use for Problem 2
			Use for Problem 3				Use for Problem 4



# Squares for Multiplying (Set 2)

**Directions:** Provide each student 2 sheets of squares for the Guided Practice.

**(You Do Together, problems 5-8)**

	Use for Problem 5	Use for Problem 6
Use for Problem 7	Use for Problem 8	





Name \_\_\_\_\_

Date \_\_\_\_\_

**Learning Target:** I will multiply fractions

## Session 1: Guided Practice (We Do)

**Materials:**

- Templates for Squares (2 sheets per student)
- 1 yellow and 1 blue highlighter per student

**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.
- Fold and highlight fraction squares to find each answer.

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

**You Do Together:** (As a class, or in small groups)

- Students take turns leading to multiply fractions.

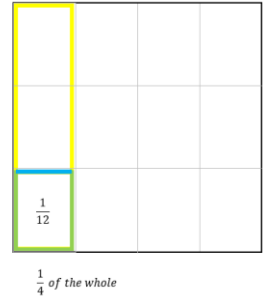
5. $\frac{1}{3} \times \frac{2}{4}$	6. $\frac{1}{2} \times \frac{3}{4}$
7. $\frac{1}{3} \times \frac{3}{4}$	8. $\frac{2}{3} \times \frac{3}{4}$

**Learning Target:** I will multiply fractions

## Session 1: Guided Practice (We Do – Teacher Notes)

**Materials:**

- Square sheets of paper (8 per student)
- 1 yellow and 1 blue highlighter per student



**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.
- Fold and highlight fraction squares to find each answer.

<p>1.</p> $\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$ <p><i>1 third of 1 fourth is how much of the whole?</i></p>	<p>2.</p> $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ <p><i>1 half of 1 fourth is how much of the whole?</i></p>
<p>3.</p> $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12} = \frac{1}{6}$ <p><i>1 fourth of 2 thirds is how much of the whole?</i></p>	<p>4.</p> $\frac{3}{4} \times \frac{1}{3} = \frac{3}{12} = \frac{1}{4}$ <p><i>3 fourths of 1 third is how much of the whole?</i></p>

**You Do Together:** (As a class, or in small groups)

- Students take turns leading to create 2 examples and 1 non-example for each sharing situation.

<p>5.</p> $\frac{1}{3} \times \frac{2}{4} = \frac{2}{12} = \frac{1}{6}$ <p><i>1 third of 2 fourths is how much of the whole?</i></p>	<p>6.</p> $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$ <p><i>1 half of 3 fourths is how much of the whole?</i></p>
<p>7.</p> $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$ <p><i>1 third of 3 fourths is how much of the whole?</i></p>	<p>8.</p> $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}$ <p><i>2 thirds of 3 fourths is how much of the whole?</i></p>



# Session 1: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form A

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{1}{5} \times \frac{3}{8} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{6}{7} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{7}{8} \times \frac{4}{9} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{5}{9} \times \frac{3}{10} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{4} \times \frac{4}{5} = \underline{\hspace{2cm}}$$

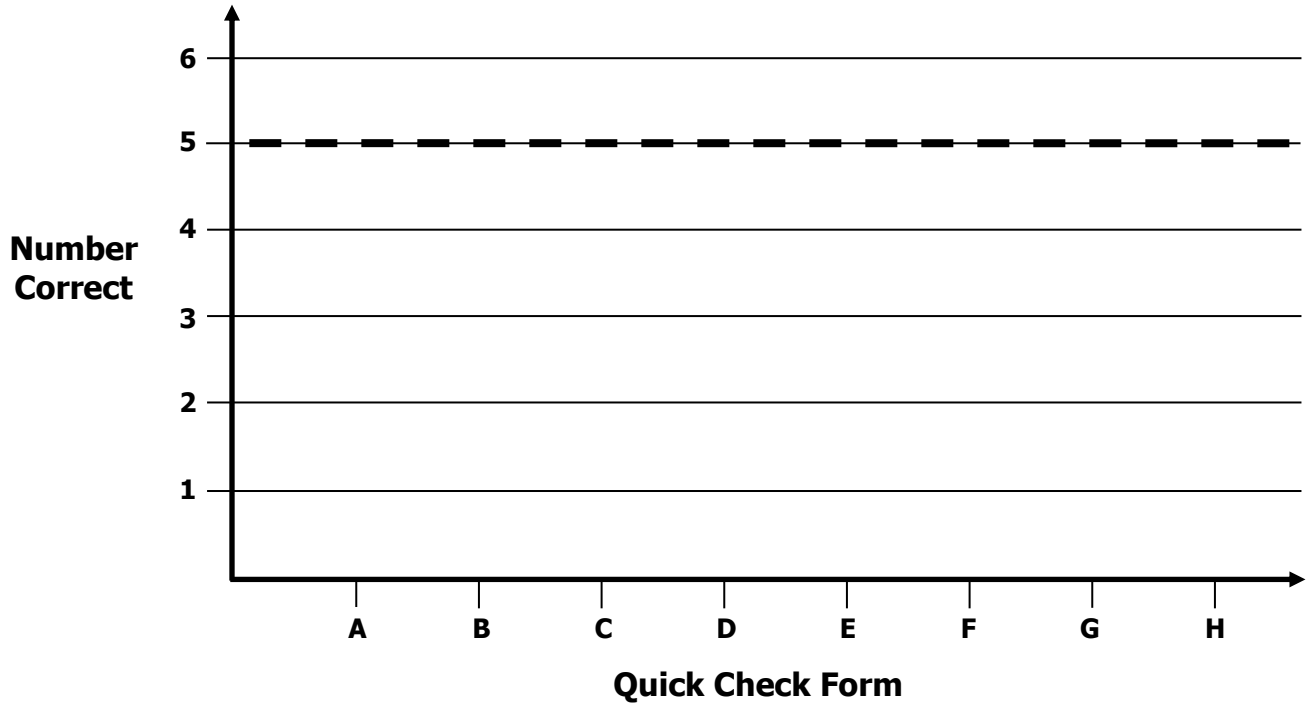


# Growth Chart

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Goal:** 5 out of 6 correct



Intervention	Date	Score
Session 1:		
Session 2:		
Session 3:		
Session 4:		
Session 5:		
Session 6:		
Session 7:		
Session 8:		



Name \_\_\_\_\_

Date \_\_\_\_\_

**Learning Target:** I will multiply fractions

## Session 2: Guided Practice (We Do)

**Materials:**

- Templates for Squares (2 sheets per student)
- 1 yellow and 1 blue highlighter per student

**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.
- Fold and highlight fraction squares to find each answer.

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

**You Do Together:** (As a class, or in small groups)

- Students take turns leading to multiply fractions.

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



# Squares for Multiplying (Set 1)

**Directions:** Provide each student 2 sheets of squares for the Guided Practice.

**(You Do Together, problems 1-4)**


Use for Problem 1

Use for Problem 2

Use for Problem 3

Use for Problem 4



# Squares for Multiplying (Set 2)

(We Do Together, problems 5-8)

<p>Use for Problem 5</p>	<p>Use for Problem 6</p>
<p>Use for Problem 7</p>	<p>Use for Problem 8</p>





## Session 2: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form B

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{1}{5} \times \frac{1}{6} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{8}{9} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{2}{9} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{3}{10} \times \frac{6}{7} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{4} \times \frac{2}{3} = \underline{\hspace{2cm}}$$

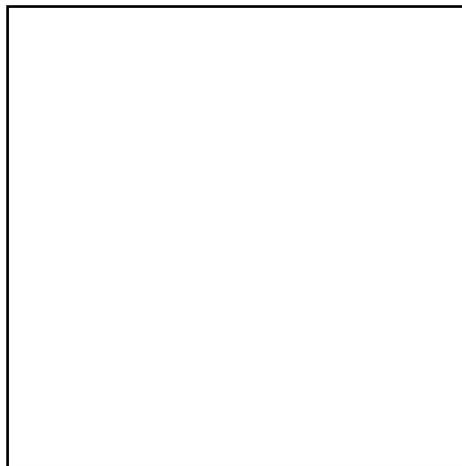


## Session 3: Modeling (I Do)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Bill and Murray split a giant brownie in half to share. Bill ate two-thirds of his portion and Murray ate three-fourths of his portion. How much of the giant brownie did Bill eat?



# Session 3: Modeling (I Do – Visual Support)

**Learning Target:** I will multiply fractions

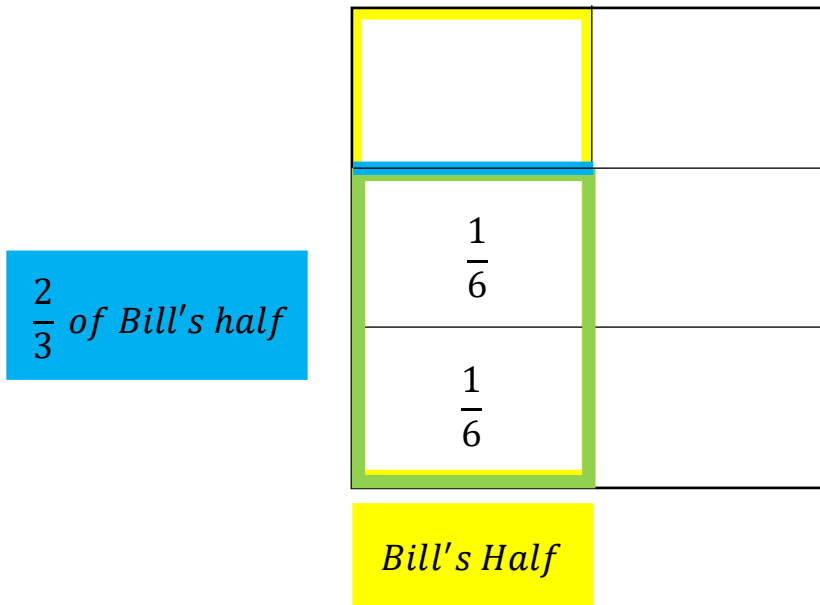
**Readiness** for multiplying and dividing fractions

Bill and Murray split a giant brownie in half to share. Bill ate two-thirds of his portion and Murray ate three-fourths of his portion. How much of the giant brownie did Bill eat?

## 1 Whole Giant Brownie

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

$\begin{matrix} \nearrow 2 \times 1 \\ \searrow 2 \times 3 \end{matrix}$



# Session 3: Modeling (I Do - Teacher Notes)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Bill and Murray split a giant brownie in half to share. Bill ate two-thirds of his portion and Murray ate three-fourths of his portion. How much of the giant brownie did Bill eat?

**I am going to think aloud to model solving this problem.**

**Your job is to watch, listen, think and ask questions.**

**First, it is important to know what the problem is about.**

**This problem is about Bill and Murray sharing a giant brownie.**

**Second, I need to determine what I need to find.**

**I need to find how much of the giant brownie Bill ate.**

**Third, I need to determine what I know.**

**I know that Bill ate 2 thirds of his half of the brownie.**

**Fourth, I need to figure out what I can try.**

**I am going to try using an area drawing to find the part of the whole.**

(Write the multiplication problem above the square.)

**I will begin by representing Bill's half of the brownie.**

(Use the guide for drawing fractions and draw a line separating the 2 halves, outline the left half with a yellow highlighter and label it as "Bill's Half".)

**Now I need to find 2 thirds of Bill's half.**

(Use the guide for drawing fractions and draw 2 lines that separate Bill's half into 3 equal parts, outline it with a blue highlighter and label it as " $\frac{2}{3}$  of Bill's Half".)

**To see what part of the whole this is, I will extend the horizontal lines.** (Extend the vertical lines as dotted lines.)

**Since the whole is made up of 6 equal parts, then each part is equal to 1 sixth.**

(Write " $\frac{1}{6}$ " in the bottom left section.)

**And, since Bill ate 2 of the parts, then he ate 2 sixths of the whole brownie.**

(Write " $\frac{2}{6}$ " as the answer to the problem above.)

**2 sixths can be simplified because the numerator and denominator have a common factor of 2.**

(Draw an arrow and write "2 x" next to the numerator and denominator)

**The numerator is equal to 2 times 1 and the denominator is equal to 2 times 3.**

(Complete the expressions "2 x 1" by the numerator and "2 x 3" by the denominator.)

**So, 2 sixths is simplified to 1 third.** (Write the answer  $\frac{1}{3}$ .)

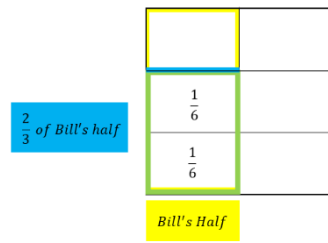
**Last, I need to make sure that my answer makes sense.**

**I found that Bill ate 1 third of the whole brownie. It makes sense because I represented the brownie with a square and separated it into fractional parts to find how much of the whole he ate.**

1 Whole Giant Brownie

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

$\begin{matrix} \nearrow 2 \times 1 \\ \searrow 2 \times 3 \end{matrix}$

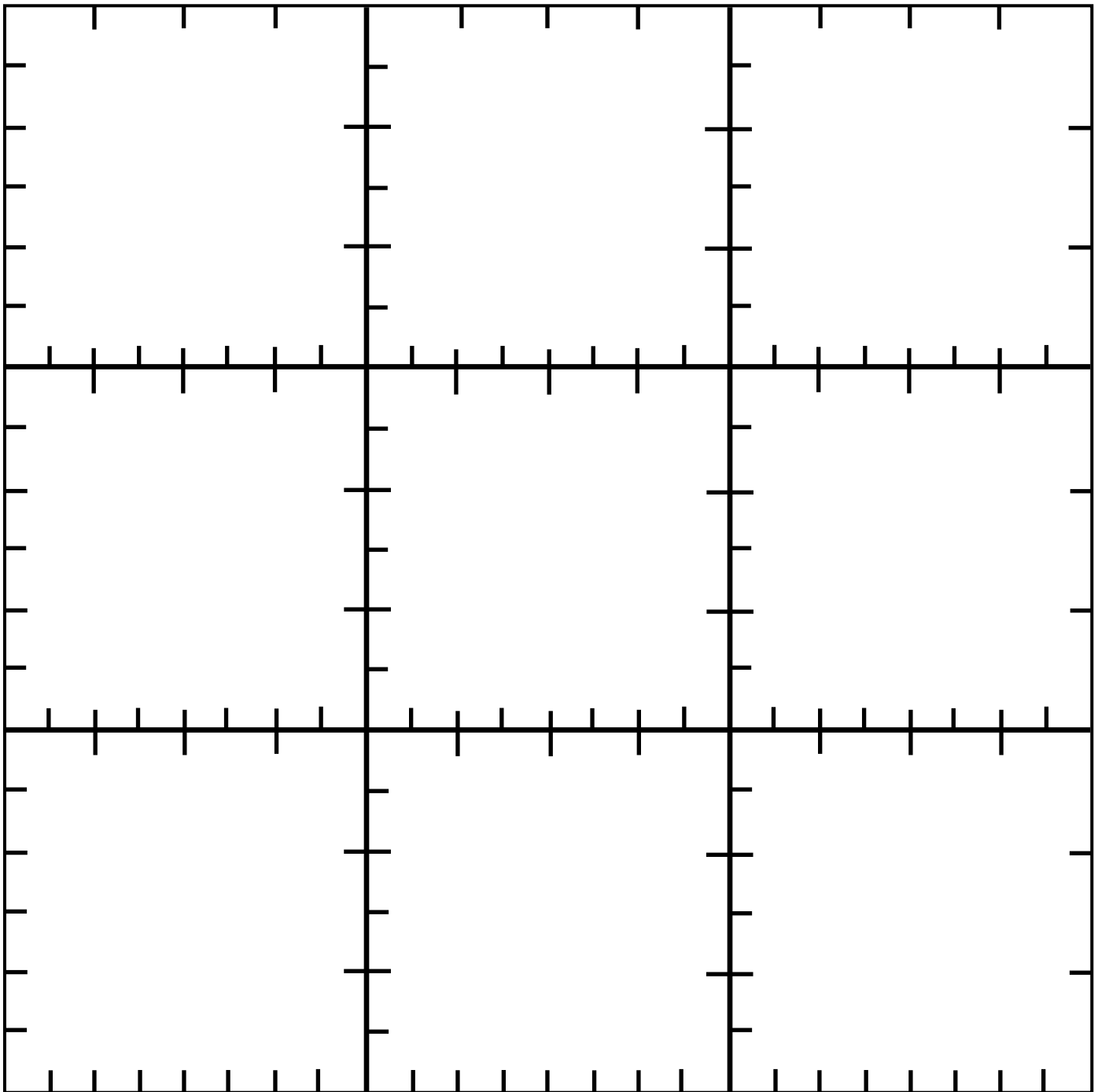




# Guides for Drawing Fractions

**Directions:** Copy on cardstock and cut out 1 square per student.

**Note:** The sides of each square provide a guide to draw thirds, fourths, sixths and eighths.  
Rotate the square to use the side required for each problem.



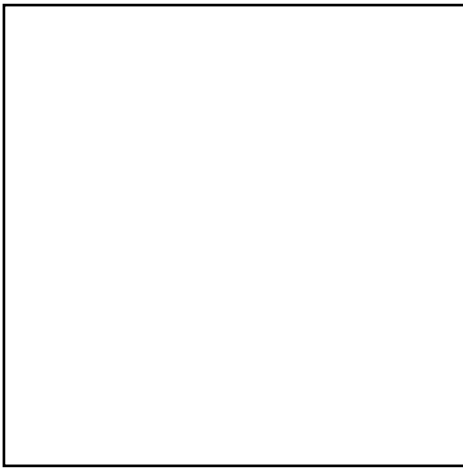
**Learning Target:** I will multiply fractions

## Session 3: Guided Practice (We Do)

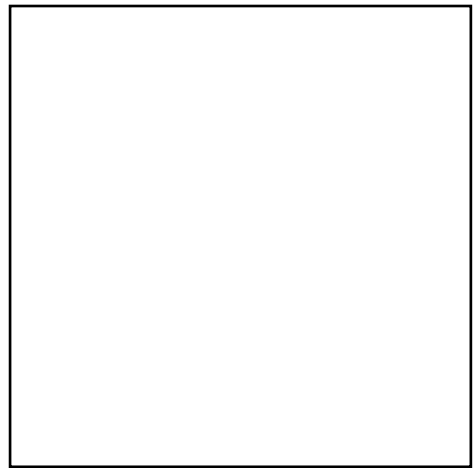
**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 1 fourth is equal to what part of the whole?*
- Use the square guide to help you draw the fractions given in each problem.

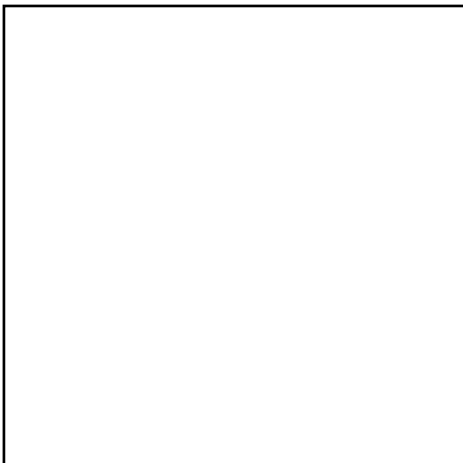
1.  $\frac{1}{3} \times \frac{1}{4} =$  \_\_\_\_\_



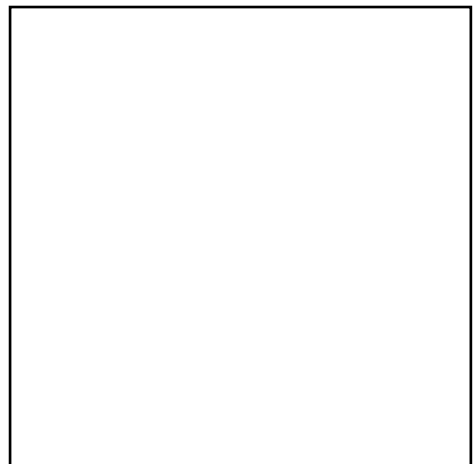
2.  $\frac{1}{2} \times \frac{1}{6} =$  \_\_\_\_\_



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



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



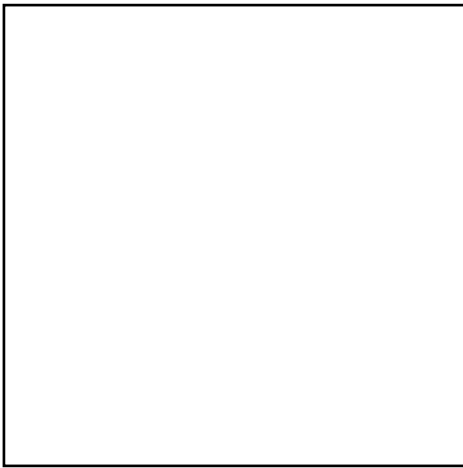
**Learning Target:** I will multiply fractions

## Session 3: Guided Practice (We Do Continued)

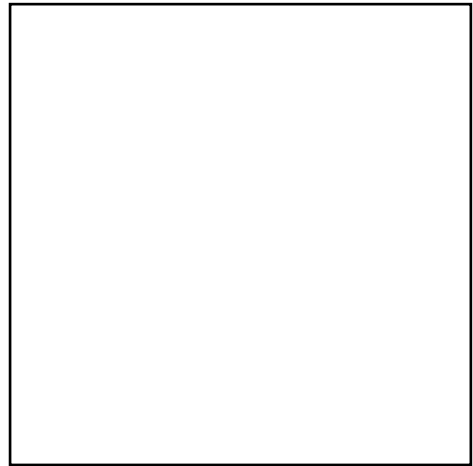
**You Do Together:** (As a class, or in small groups)

- Students take turns restating each fraction multiplication problem.
- Use the square guide to help you draw the fractions given in each problem.

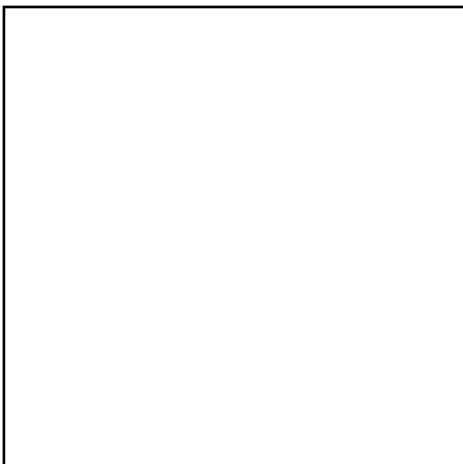
5.  $\frac{1}{4} \times \frac{1}{2} =$  \_\_\_\_\_



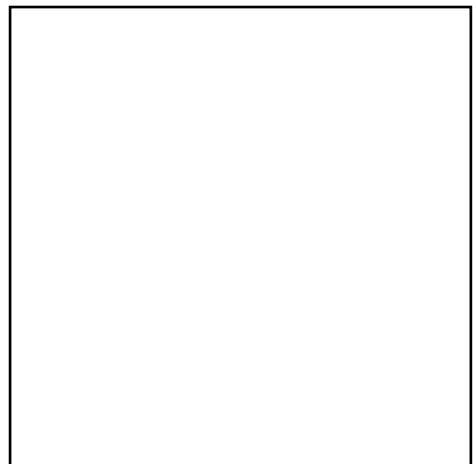
6.  $\frac{1}{2} \times \frac{1}{3} =$  \_\_\_\_\_



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



8.  $\frac{3}{4} \times \frac{2}{3} =$  \_\_\_\_\_





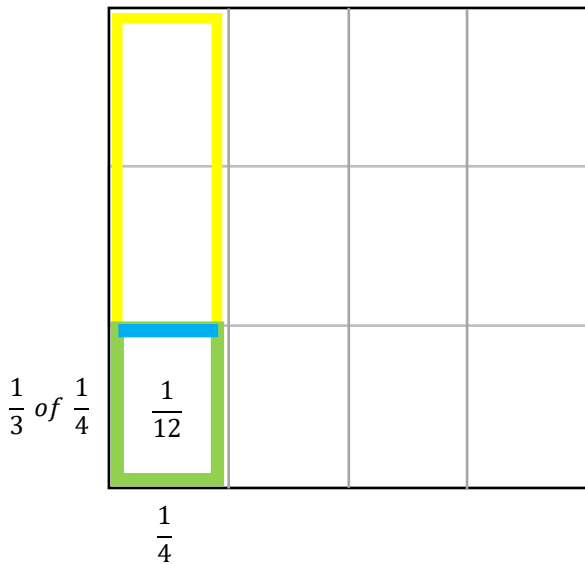
**Learning Target:** I will multiply fractions

## Session 3: Guided Practice (We Do – Teacher Notes)

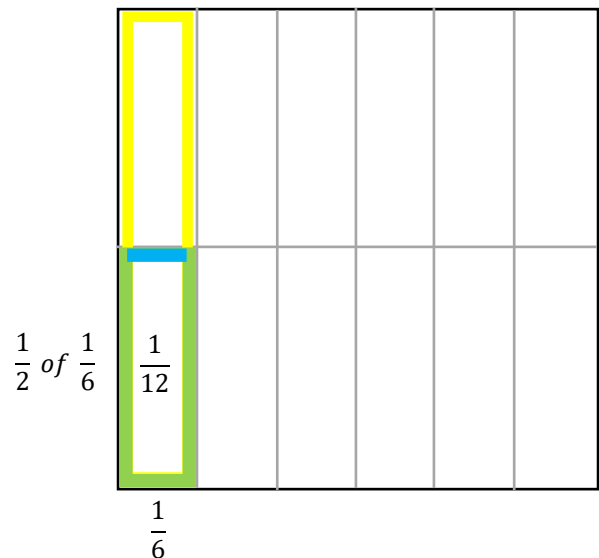
**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 1 fourth is equal to what part of the whole?*
- Use the square below to find each answer.

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

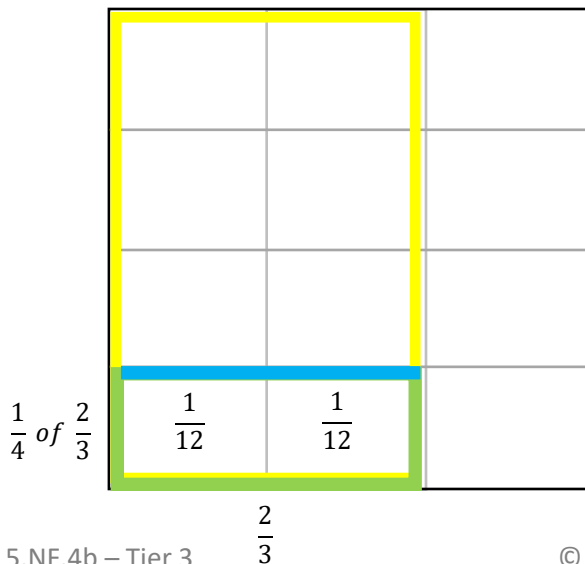


2.  $\frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$

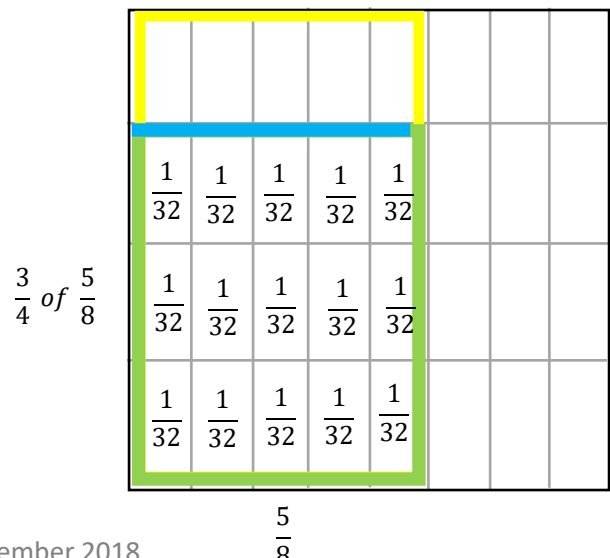


3.  $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12} = \frac{1}{6}$

$\nearrow 2 \times 1$   
 $\searrow 2 \times 6$



4.  $\frac{3}{4} \times \frac{5}{8} = \frac{15}{32}$





## Session 3: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form C

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

$$\frac{3}{4} \times \frac{3}{5} = \underline{\hspace{2cm}}$$

**2.**

$$\frac{4}{5} \times \frac{1}{2} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{5}{7} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{3}{10} \times \frac{5}{6} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{6}{7} \times \frac{3}{8} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{5} \times \frac{5}{5} = \underline{\hspace{2cm}}$$

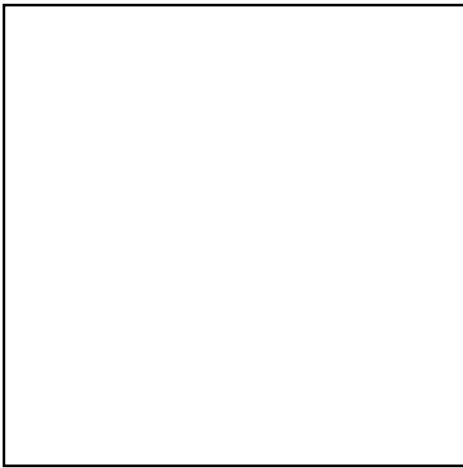
**Learning Target:** I will multiply fractions

## Session 4: Guided Practice (We Do)

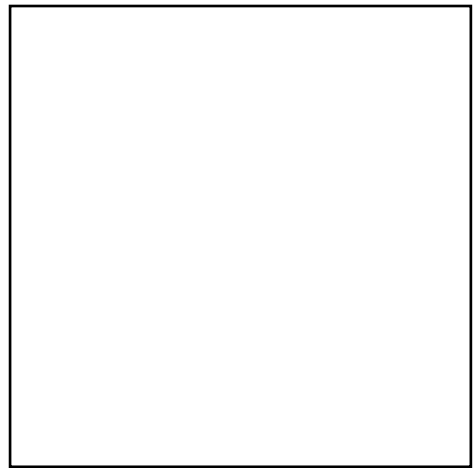
**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 1 fourth is equal to what part of the whole?*
- Use the square guide to help you draw the fractions given in each problem.

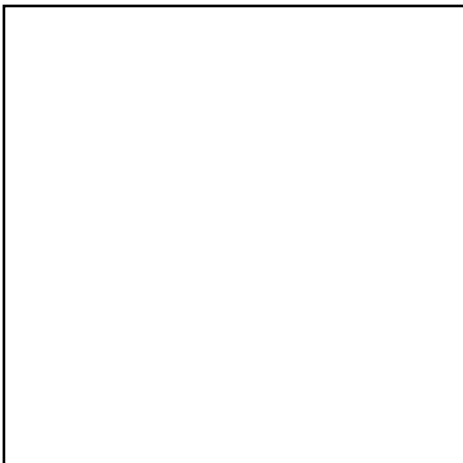
1.  $\frac{2}{3} \times \frac{1}{4} =$  \_\_\_\_\_



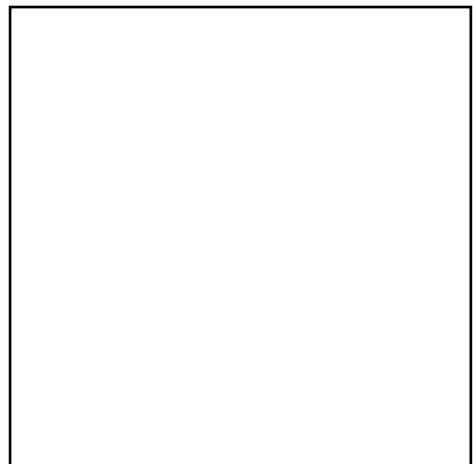
2.  $\frac{1}{2} \times \frac{5}{6} =$  \_\_\_\_\_



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



4.  $\frac{1}{4} \times \frac{5}{8} =$  \_\_\_\_\_



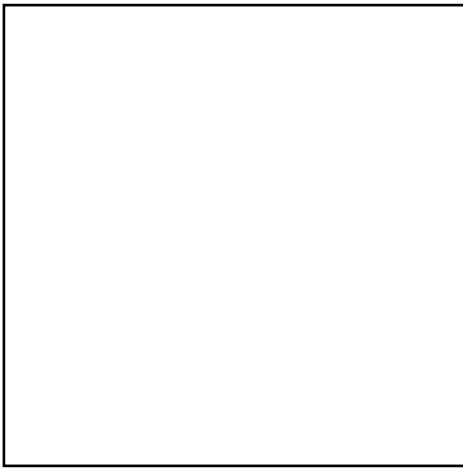
**Learning Target:** I will multiply fractions

## Session 4: Guided Practice (We Do Continued)

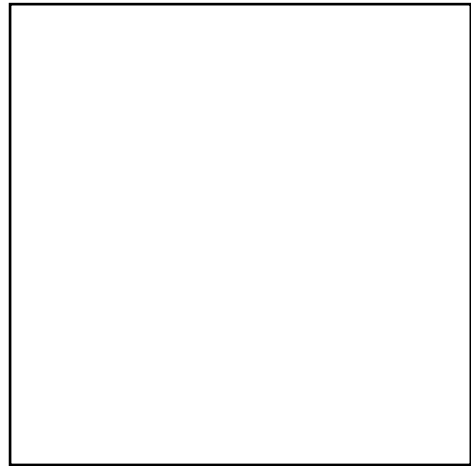
**You Do Together:** (As a class, or in small groups)

- Students take turns restating each fraction multiplication problem.
- Use the square guide to help you draw the fractions given in each problem.

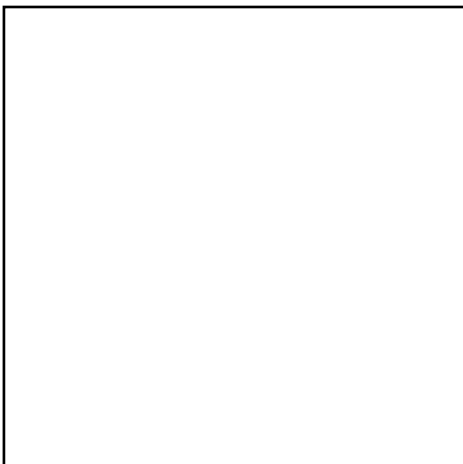
5.  $\frac{1}{6} \times \frac{3}{4} =$  \_\_\_\_\_



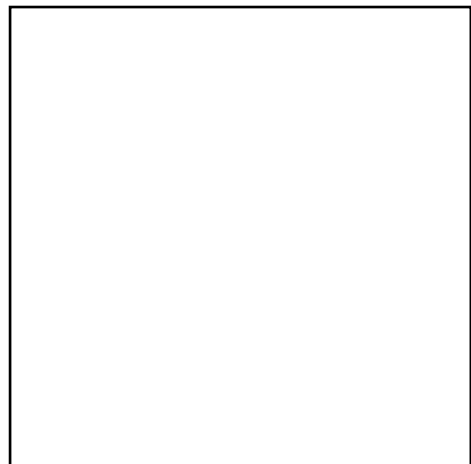
6.  $\frac{1}{2} \times \frac{2}{3} =$  \_\_\_\_\_



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



8.  $\frac{3}{4} \times \frac{7}{8} =$  \_\_\_\_\_





## Session 4: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form D

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{2}{5} \times \frac{2}{3} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{5}{6} \times \frac{4}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{7}{10} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{8}{9} \times \frac{2}{4} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{2}{3} \times \frac{3}{5} = \underline{\hspace{2cm}}$$

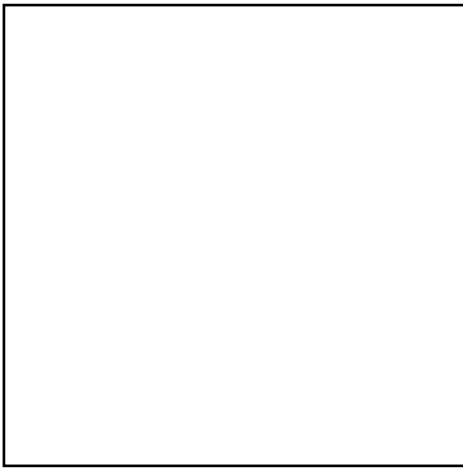
**Learning Target:** I will multiply fractions

## Session 5: Guided Practice (We Do)

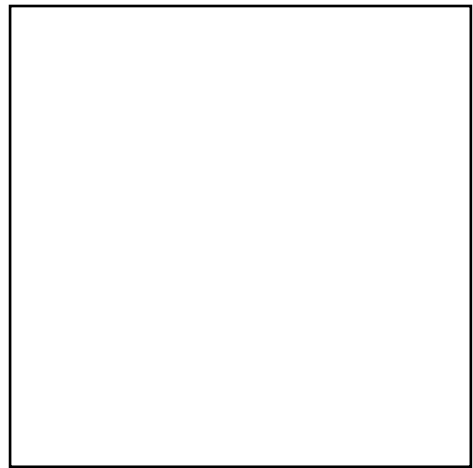
**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 1 fourth is equal to what part of the whole?*
- Use the square guide to help you draw the fractions given in each problem.

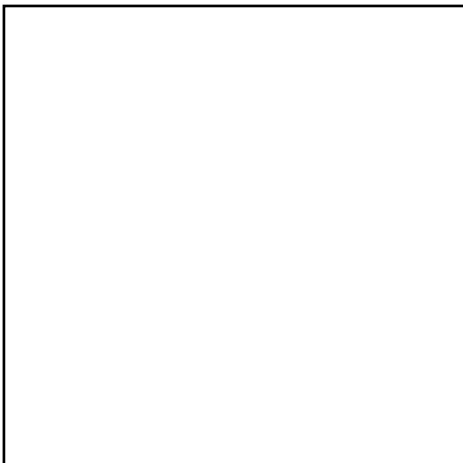
1.  $\frac{1}{3} \times \frac{3}{4} =$  \_\_\_\_\_



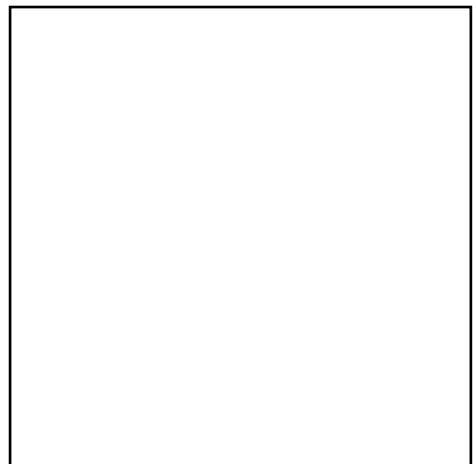
2.  $\frac{3}{4} \times \frac{1}{6} =$  \_\_\_\_\_



3.  $\frac{1}{4} \times \frac{7}{8} =$  \_\_\_\_\_



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





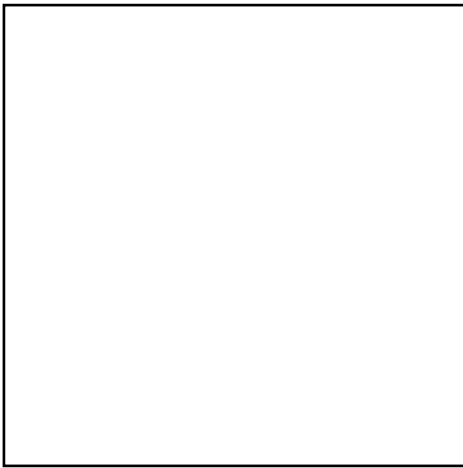
**Learning Target:** I will multiply fractions

## Session 5: Guided Practice (We Do Continued)

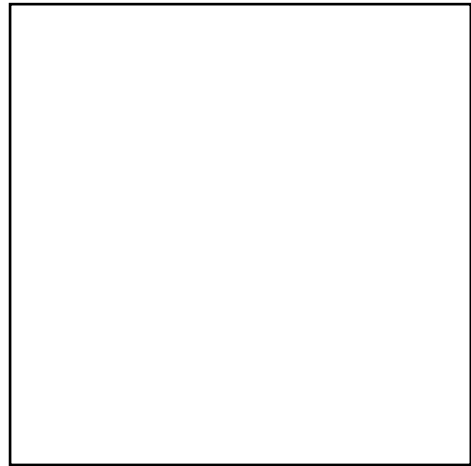
**You Do Together:** (As a class, or in small groups)

- Students take turns restating each fraction multiplication problem.
- Use the square guide to help you draw the fractions given in each problem.

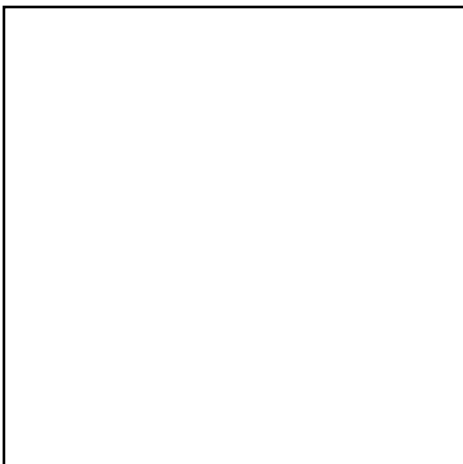
5.  $\frac{1}{4} \times \frac{2}{3} =$  \_\_\_\_\_



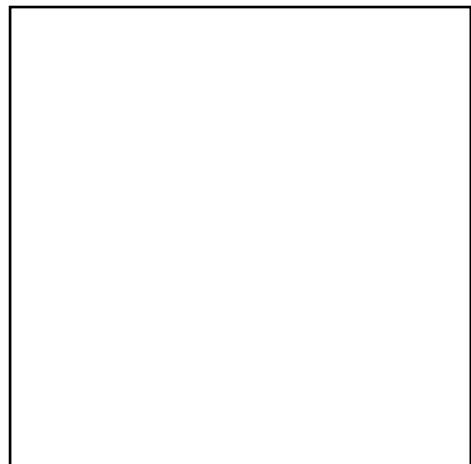
6.  $\frac{1}{2} \times \frac{3}{4} =$  \_\_\_\_\_



7.  $\frac{1}{3} \times \frac{5}{8} =$  \_\_\_\_\_



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





## Session 5: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form E

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{1}{5} \times \frac{3}{8} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{6}{7} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{7}{8} \times \frac{4}{9} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{5}{9} \times \frac{3}{10} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{4} \times \frac{4}{5} = \underline{\hspace{2cm}}$$



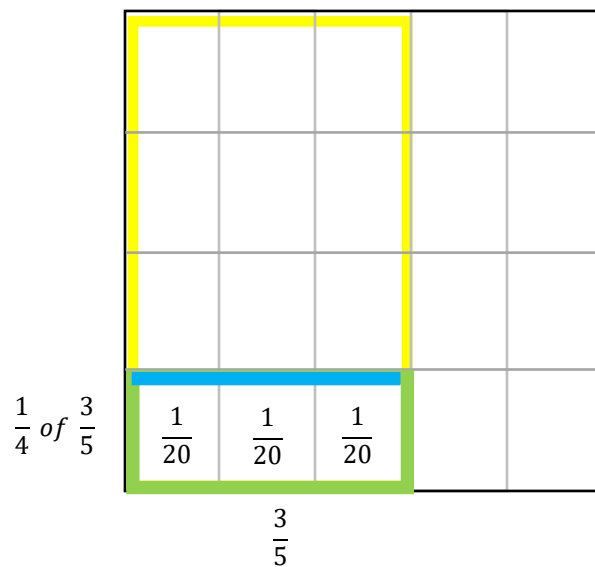
# Session 6: Modeling (I Do)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Jenn used an area drawing to find the answer to  $\frac{1}{4} \times \frac{3}{5}$ . Look for structure in her drawing that would help you multiply fractions without making a drawing.

$$\frac{1}{4} \times \frac{3}{5} = \frac{3}{20}$$



# Session 6: Modeling (I Do – Visual Support)

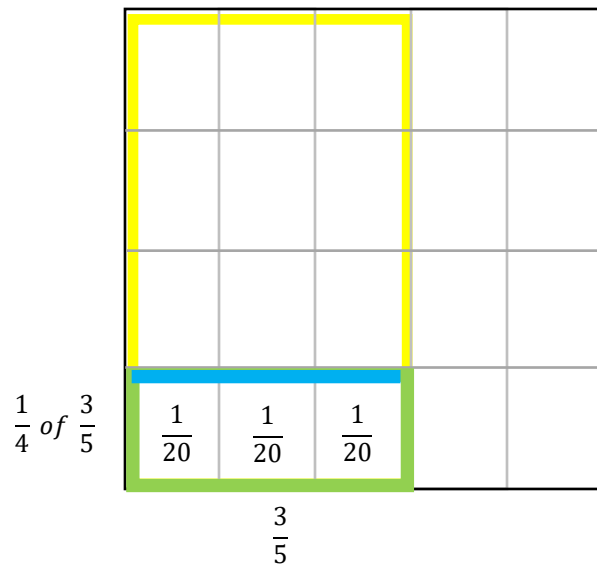
**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Jenn used an area drawing to find the answer to  $\frac{1}{4} \times \frac{3}{5}$ . Look for structure in her drawing that would help you multiply fractions without making a drawing.

$$\frac{1}{4} \times \frac{3}{5} = \frac{3}{20} = \frac{1 \times 3}{4 \times 5}$$

Number of parts  
↓  
1 × 3  
4 × 5  
↑  
Size of each part





# Session 6: Modeling (I Do - Teacher Notes)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

Jenn used an area drawing to find the answer to  $\frac{1}{4} \times \frac{3}{5}$ . Look for structure in her drawing that would help you multiply fractions without making a drawing.

**I am going to think aloud to model solving this problem.**

**Your job is to watch, listen, think and ask questions.**

**First, it is important to know what the problem is about.**

**This problem is about Jenn using an area drawing to multiply fractions.**

**Second, I need to determine what I need to find.**

**I need to find structure in the drawing to help multiply fractions without making a drawing.**

**Third, I need to determine what I know.**

**I know that 1 fourth times 3 fifths is the same as finding 1 fourth of 3 fifths.**

**Fourth, I need to figure out what I can try.**

**I am going to try looking for structure in the drawing.**

**I see that the size of each part in the answer is twentieths.**

(Point to the 3 twentieths in the drawing.)

**I notice that multiplying the denominators, 4 and 5, is equal to 20.**

(Write “=  $\frac{\quad}{4 \times 5}$ ” next to the problem.)

**The multiplication problem “4 times 5” can also be seen in the drawing.**

(Point to the 4 parts separated horizontally and the 5 parts separated vertically.)

**Also, I see that the number of parts in the answer is 3.**

(Point and count each of the 3 twentieths in the drawing.)

**I also notice that multiplying the numerators, 1 and 3 is equal to 3.**

(Write the numerators “1 x 3” next to the problem.)

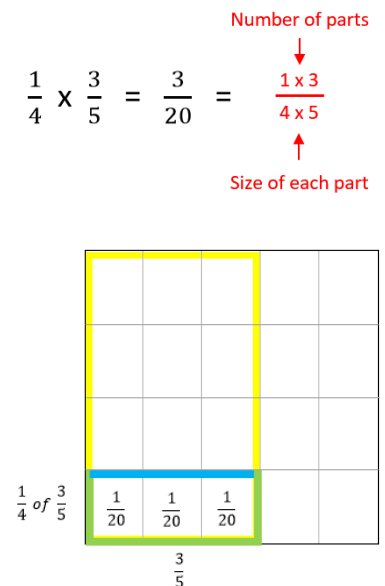
**The multiplication problem “1 times 3” can also be seen in the drawing.**

(Point to the 1 by 3 rectangle that represents the answer.)

**So, anytime I need to multiply two fractions I can always multiply the denominators together to find the size of the parts in the answer, then the numerators to find the number of parts.**

**Last, I need to make sure that my answer makes sense.**

**I found that I might be able to multiply fractions without using a drawing. It makes sense because the denominators tell us how many parts make up a whole and the numerators tell us how many parts we have... let's see if it works for the guided practice problems.**



**Learning Target:** I will multiply fractions

## Session 6: Guided Practice (We Do)

**We Do Together:** (Teacher Actions)

- Fold your paper to hide the math drawings. Then, multiply to find each answer and simplify, if needed.
- Use the drawing to check if your answer is correct.

	Multiply and Simplify	Check Your Work
1.  $\frac{1}{3} \times \frac{1}{4}$		
2.  $\frac{1}{2} \times \frac{3}{4}$		
3.  $\frac{1}{4} \times \frac{2}{3}$		
4.  $\frac{3}{4} \times \frac{4}{5}$		

**Learning Target:** I will multiply fractions

## Session 6: Guided Practice (We Do - Continued)

**You Do Together:** (As a class, or in small groups)

- Fold your paper to hide the math drawings.
- Students take turns leading to multiply fractions, simplify answers if needed and check your work.

	Multiply and Simplify	Check Your Work
5.  $\frac{1}{4} \times \frac{1}{2}$		
6.  $\frac{1}{2} \times \frac{3}{5}$		
7.  $\frac{3}{4} \times \frac{2}{3}$		
8.  $\frac{2}{3} \times \frac{7}{8}$		



**Learning Target:** I will multiply fractions

## Session 6: Guided Practice (We Do – Teacher Notes)

**We Do Together:** (Teacher Actions)

- Fold your paper to hide the math drawings. Then, multiply to find each answer and simplify, if needed.
- Use the drawing to check if your answer is correct.

	Multiply and Simplify	Check Your Work
1. $\frac{1}{3} \times \frac{1}{4}$	$\frac{1 \times 1}{3 \times 4} = \frac{1}{12}$	
2. $\frac{1}{2} \times \frac{3}{4}$	$\frac{1 \times 3}{2 \times 4} = \frac{3}{8}$	
3. $\frac{1}{4} \times \frac{2}{3}$	$\frac{1 \times 2}{4 \times 3} = \frac{2}{12} = \frac{1}{6}$ $\begin{matrix} & \nearrow 2 \times 1 \\ & \searrow 2 \times 6 \end{matrix}$	
4. $\frac{3}{4} \times \frac{4}{5}$	$\frac{3 \times 4}{4 \times 5} = \frac{12}{20} = \frac{3}{5}$ $\begin{matrix} & \nearrow 4 \times 3 \\ & \searrow 4 \times 5 \end{matrix}$	



## Session 6: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form F

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{1}{5} \times \frac{1}{6} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{8}{9} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{2}{9} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{3}{10} \times \frac{6}{7} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{4} \times \frac{2}{3} = \underline{\hspace{2cm}}$$

**Learning Target:** I will multiply fractions

## Session 7: Guided Practice (We Do)

**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 3 fourths is equal to what part of the whole?*
- Multiply to find the size of each part and number of parts.
- Sketch the multiplication problem to check your answer.

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

2.  $\frac{1}{2} \times \frac{1}{4} =$  \_\_\_\_\_

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

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

**Learning Target:** I will multiply fractions

## Session 7: Guided Practice (We Do Continued)

**You Do Together:** (As a class, or in small groups)

- Students take turns leading to restating each fraction multiplication problem. Then, multiply the fractions and sketch the problem to check your answer.

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

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

7.  $\frac{1}{4} \times \frac{5}{6} =$  \_\_\_\_\_

8.  $\frac{3}{4} \times \frac{7}{8} =$  \_\_\_\_\_



## Session 7: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form G

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

$$\frac{3}{4} \times \frac{3}{5} = \underline{\hspace{2cm}}$$

**2.**

$$\frac{4}{5} \times \frac{1}{2} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{5}{7} \times \frac{2}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{3}{10} \times \frac{5}{6} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{6}{7} \times \frac{3}{8} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{3}{5} \times \frac{5}{5} = \underline{\hspace{2cm}}$$

**Learning Target:** I will multiply fractions

## Session 8: Guided Practice (We Do)

**We Do Together:** (Teacher Actions)

- Restate each fraction multiplication problem based on your conceptual understanding.  
*Example: 1 third of 3 fourths is equal to what part of the whole?*
- Multiply to find the size of each part and number of parts.
- Sketch the multiplication problem to check your answer.

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

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

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

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



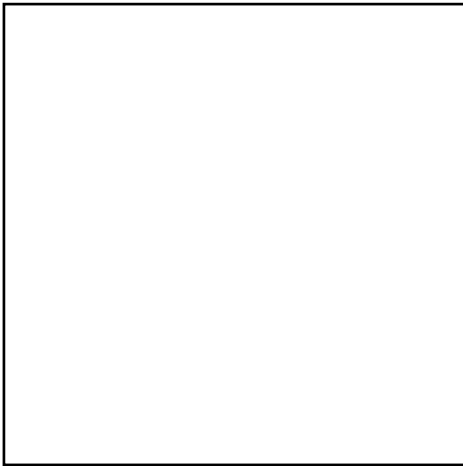
**Learning Target:** I will multiply fractions

## Session 8: Guided Practice (We Do Continued)

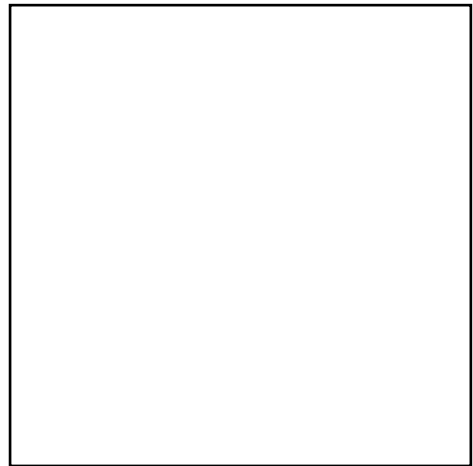
**You Do Together:** (As a class, or in small groups)

- Students take turns leading to restating each fraction multiplication problem. Then, multiply the fractions and sketch the problem to check your answer.

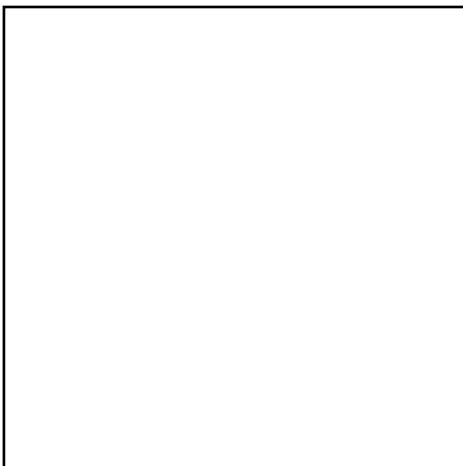
5.  $\frac{1}{4} \times \frac{2}{3} =$  \_\_\_\_\_



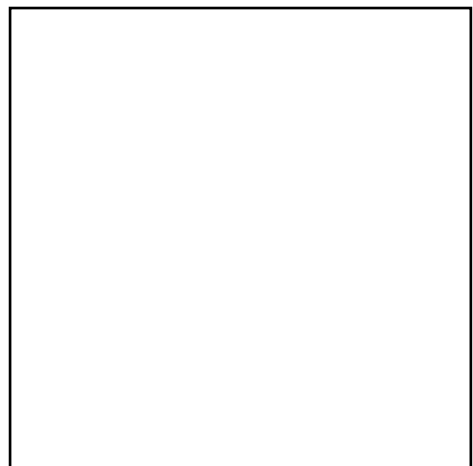
6.  $\frac{1}{3} \times \frac{4}{5} =$  \_\_\_\_\_



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



8.  $\frac{2}{4} \times \frac{3}{8} =$  \_\_\_\_\_





## Session 8: Self-Reflection

**Learning Target:** I will multiply fractions

Briefly discuss student responses:

- What did I learn today about multiplying fractions?
  
- How confident do I feel about multiplying fractions on my own?  
*(Thumbs up, down, or sideways)*



# Quick Check - Form H

Name \_\_\_\_\_ Date \_\_\_\_\_

**Learning Target:** I will multiply fractions.

**Directions:** Write the answer to each problem. (Work time: 4 minutes)

**1.**

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

**2.**

$$\frac{2}{5} \times \frac{2}{3} = \underline{\hspace{2cm}}$$

**3.**

$$\frac{5}{6} \times \frac{4}{5} = \underline{\hspace{2cm}}$$

**4.**

$$\frac{7}{10} \times \frac{3}{4} = \underline{\hspace{2cm}}$$

**5.**

$$\frac{8}{9} \times \frac{2}{4} = \underline{\hspace{2cm}}$$

**6.**

$$\frac{2}{3} \times \frac{3}{5} = \underline{\hspace{2cm}}$$



# Independent Practice (You Do)

**Learning Target:** I will multiply fractions

**Readiness** for multiplying and dividing fractions

**Title of Game:** Play “**Multiplication Match-up!**”

**Number of Players:** 2

**Objective:** To match your answer cards to unknown problem cards.

**Materials:**

- 1 set of **Problem** and **Answer** cards per group
- 1 recording sheet per player

**Set-up:**

- Deal all 10 **Problem** cards face down in a row.
- Deal 5 **Answer** cards face up to each player.

**Directions:**

- **Player 1** goes first
  - Take a card from the row of face down **Problem** cards and turn it face up
  - Write the problem on the recording sheet
  - And, find the answer in simplest form
- If **Player 1** has the **Answer** card, place it face up on top of the **Problem** card, take both cards and say:  
*“The answer to \_\_\_ is equal to \_\_\_.”*
- If **Player 1** does not have the answer to the **Problem** card, turn the **Problem** card back over.
- **Players 1 and 2** alternate turns. The **winner** is the first player to match all 5 of their cards.



Names \_\_\_\_\_ Date \_\_\_\_\_

Learning Target: I will multiply fractions

## Independent Practice: Multiplication Match-up!

*(Recording Sheet)*




# Problem Cards (Set A)

**Storage Suggestions:** Copy the **Problem (Set A)** cards and **Answer (Set A)** cards in two different colors.

Store 1 set of each in a sealable bag for each pair of students.

Set A <sub>1</sub>	$\frac{1}{2} \times \frac{1}{3}$ Set A	$\frac{1}{2} \times \frac{2}{3}$ Set A	$\frac{1}{2} \times \frac{3}{4}$ Set A	$\frac{1}{2} \times \frac{2}{5}$ Set A
	$\frac{1}{2} \times \frac{4}{5}$ Set A	$\frac{1}{3} \times \frac{3}{4}$ Set A	$\frac{1}{3} \times \frac{3}{5}$ Set A	$\frac{2}{3} \times \frac{1}{4}$ Set A
	$\frac{2}{3} \times \frac{3}{4}$ Set A	$\frac{1}{4} \times \frac{2}{5}$ Set A		
Set A <sub>2</sub>	$\frac{1}{2} \times \frac{1}{3}$ Set A	$\frac{1}{2} \times \frac{2}{3}$ Set A	$\frac{1}{2} \times \frac{3}{4}$ Set A	$\frac{1}{2} \times \frac{2}{5}$ Set A
	$\frac{1}{2} \times \frac{4}{5}$ Set A	$\frac{1}{3} \times \frac{3}{4}$ Set A	$\frac{1}{3} \times \frac{3}{5}$ Set A	$\frac{2}{3} \times \frac{1}{4}$ Set A
	$\frac{2}{3} \times \frac{3}{4}$ Set A	$\frac{1}{4} \times \frac{2}{5}$ Set A		



# Answer Cards (Set A)

**Storage Suggestions:** Copy the **Problem (Set A)** cards and **Answer (Set A)** cards in two different colors.  
Store 1 set of each in a sealable bag for each pair of students.

Set A <sub>1</sub>	$\frac{1}{6}$ Set A	$\frac{1}{3}$ Set A	$\frac{3}{8}$ Set A	$\frac{1}{5}$ Set A
	$\frac{2}{5}$ Set A	$\frac{1}{4}$ Set A	$\frac{1}{5}$ Set A	$\frac{1}{6}$ Set A
	$\frac{1}{2}$ Set A	$\frac{1}{10}$ Set A		
Set A <sub>2</sub>	$\frac{1}{6}$ Set A	$\frac{1}{3}$ Set A	$\frac{3}{8}$ Set A	$\frac{1}{5}$ Set A
	$\frac{2}{5}$ Set A	$\frac{1}{4}$ Set A	$\frac{1}{5}$ Set A	$\frac{1}{6}$ Set A
	$\frac{1}{2}$ Set A	$\frac{1}{10}$ Set A		



# Problem Cards (Set B)

**Storage Suggestions:** Copy the **Problem (Set B)** cards and **Answer (Set B)** cards in two different colors.

Store 1 set of each in a sealable bag for each pair of students.

Set B <sub>1</sub>	$\frac{1}{2} \times \frac{1}{6}$ Set B	$\frac{1}{2} \times \frac{3}{6}$ Set B	$\frac{2}{3} \times \frac{3}{6}$ Set B	$\frac{2}{3} \times \frac{4}{6}$ Set B
	$\frac{2}{3} \times \frac{1}{6}$ Set B	$\frac{1}{4} \times \frac{2}{5}$ Set B	$\frac{3}{4} \times \frac{4}{5}$ Set B	$\frac{3}{4} \times \frac{5}{6}$ Set B
	$\frac{2}{5} \times \frac{3}{8}$ Set B	$\frac{4}{5} \times \frac{3}{8}$ Set B		
Set B <sub>2</sub>	$\frac{1}{2} \times \frac{1}{6}$ Set B	$\frac{1}{2} \times \frac{3}{6}$ Set B	$\frac{2}{3} \times \frac{3}{6}$ Set B	$\frac{2}{3} \times \frac{4}{6}$ Set B
	$\frac{2}{3} \times \frac{1}{6}$ Set B	$\frac{1}{4} \times \frac{2}{5}$ Set B	$\frac{3}{4} \times \frac{4}{5}$ Set B	$\frac{3}{4} \times \frac{5}{6}$ Set B
	$\frac{2}{5} \times \frac{3}{8}$ Set B	$\frac{4}{5} \times \frac{3}{8}$ Set B		





# Answer Cards (Set B)

**Storage Suggestions:** Copy the **Problem (Set B)** cards and **Answer (Set B)** cards in two different colors.  
Store 1 set of each in a sealable bag for each pair of students.

Set B <sub>1</sub>	$\frac{1}{12}$ Set B	$\frac{1}{4}$ Set B	$\frac{1}{3}$ Set B	$\frac{4}{9}$ Set B
	$\frac{1}{9}$ Set B	$\frac{1}{10}$ Set B	$\frac{3}{5}$ Set B	$\frac{5}{8}$ Set B
	$\frac{3}{20}$ Set B	$\frac{3}{10}$ Set B		
Set B <sub>2</sub>	$\frac{1}{12}$ Set B	$\frac{1}{4}$ Set B	$\frac{1}{3}$ Set B	$\frac{4}{9}$ Set B
	$\frac{1}{9}$ Set B	$\frac{1}{10}$ Set B	$\frac{3}{5}$ Set B	$\frac{5}{8}$ Set B
	$\frac{3}{20}$ Set B	$\frac{3}{10}$ Set B		



# Problem Cards (Set C)

**Storage Suggestions:** Copy the **Problem (Set C)** cards and **Answer (Set C)** cards in two different colors.

Store 1 set of each in a sealable bag for each pair of students.

Set C <sub>1</sub>	$\frac{1}{2} \times \frac{5}{6}$ Set C	$\frac{2}{3} \times \frac{9}{10}$ Set C	$\frac{1}{3} \times \frac{9}{10}$ Set C	$\frac{1}{4} \times \frac{4}{5}$ Set C
	$\frac{3}{4} \times \frac{4}{5}$ Set C	$\frac{2}{3} \times \frac{7}{10}$ Set C	$\frac{3}{5} \times \frac{5}{8}$ Set C	$\frac{5}{6} \times \frac{3}{8}$ Set C
	$\frac{5}{9} \times \frac{3}{10}$ Set C	$\frac{2}{9} \times \frac{3}{8}$ Set C		
Set C <sub>2</sub>	$\frac{1}{2} \times \frac{5}{6}$ Set C	$\frac{2}{3} \times \frac{9}{10}$ Set C	$\frac{1}{3} \times \frac{9}{10}$ Set C	$\frac{1}{4} \times \frac{4}{5}$ Set C
	$\frac{3}{4} \times \frac{4}{5}$ Set C	$\frac{2}{3} \times \frac{7}{10}$ Set C	$\frac{3}{5} \times \frac{5}{8}$ Set C	$\frac{5}{6} \times \frac{3}{8}$ Set C
	$\frac{5}{9} \times \frac{3}{10}$ Set C	$\frac{2}{9} \times \frac{3}{8}$ Set C		



# Answer Cards (Set C)

**Storage Suggestions:** Copy the **Problem (Set C)** cards and **Answer (Set C)** cards in two different colors.

Store 1 set of each in a sealable bag for each pair of students.

Set C <sub>1</sub>	$\frac{5}{12}$ Set C	$\frac{3}{5}$ Set C	$\frac{3}{10}$ Set C	$\frac{1}{5}$ Set C
	$\frac{3}{5}$ Set C	$\frac{7}{15}$ Set C	$\frac{3}{8}$ Set C	$\frac{5}{16}$ Set C
	$\frac{1}{6}$ Set C	$\frac{1}{12}$ Set C		
Set C <sub>2</sub>	$\frac{5}{12}$ Set C	$\frac{3}{5}$ Set C	$\frac{3}{10}$ Set C	$\frac{1}{5}$ Set C
	$\frac{3}{5}$ Set C	$\frac{7}{15}$ Set C	$\frac{3}{8}$ Set C	$\frac{5}{16}$ Set C
	$\frac{1}{6}$ Set C	$\frac{1}{12}$ Set C		



# Questions for Solving Word Problems

$Q_1$

*What is the problem about?*

$Q_2$

*What do I need to find?*

$Q_3$

*What do I know?*

$Q_4$

*What can I try?*

$Q_5$

*Does my answer make sense?*



# Steps for Solving Word Problems

*Q<sub>1</sub>. What is the problem about?*

*Q<sub>2</sub>. What do I need to find?*

*Q<sub>3</sub>. What do I know?*

*Q<sub>4</sub>. What can I try?*

*Q<sub>5</sub>. Does my answer make sense?*