

## Lesson Plan Template

<b>Grade: 6 (44 min)</b>		<b>Subject: Math</b>	
<b>Materials: Pencil, paper</b>		<b>Technology Needed: Power point</b>	
<b>Instructional Strategies:</b> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/ <input type="checkbox"/> Guided practice              cooperative learning <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Learning Centers <input type="checkbox"/> PBL <input type="checkbox"/> Lecture <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Technology integration <input type="checkbox"/> Modeling <input type="checkbox"/> Other (list)		<b>Guided Practices and Concrete Application:</b> <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:	
<b>Standard(s)</b> 6.NS.1 Use visual fraction models and equations to interpret and compute quotients of fractions. Use models and equations to solve word problems involving division of fractions by fractions.		<b>Differentiation</b> <b>Below Proficiency:</b> Will be able to work with a peer and may help each other through the problems. <b>Above Proficiency:</b> Will be able to work at their own pace and ask questions if needed. <b>Approaching/Emerging Proficiency:</b> Will be able to work with a peer and ask questions when needed. <b>Modalities/Learning Preferences:</b>	
<b>Objective(s)</b> Students can multiply mixed numbers. Students can multiply mixed numbers and fractions. Students can multiply mixed numbers and simplify.		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b> When working students are expected to be respectful of others and work at a quiet voice level.	
<b>Bloom's Taxonomy Cognitive Level:</b> Solve, demonstrate, calculate			
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> Students will work with the person next to them to complete the activity.			
<b>Minutes</b>	<b>Procedures</b>		
<b>0</b>	<b>Set-up/Prep:</b> Power point is made and projected on the board.		
<b>5</b>	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b> First, I want to start off by giving you a pre assessment. This will not be graded this is just for me to see where you are at and then your progress through the lesson. Multiply. Write the answer in simplest form.  $\frac{1}{3} \times 2\frac{2}{3} \qquad 3\frac{1}{2} \times 5\frac{7}{10}$ Let's go over how to turn a mixed number into an improper fraction just to refresh your memory. Can anyone explain to me how we would turn this mixed number into an improper fraction:  $6\frac{1}{3}$ We need to multiply and then add. So, we would get $\frac{19}{3}$ .		
<b>20</b>	<b>Explain: (concepts, procedures, vocabulary, etc.)</b> So today we are going to talk about multiplying mixed numbers. First let's look at multiplying mixed numbers and a fraction. Strategy 1. Turn the mixed number into a improper fraction then multiply across and then simplify. Example 1.  $2\frac{1}{2} \times \frac{2}{3} = \frac{5}{2} \times \frac{2}{3} = \frac{10}{3} = 3\frac{1}{3}$ Example 2.  $4\frac{1}{9} \times 2\frac{3}{4} = \frac{37}{9} \times \frac{11}{4} = \frac{407}{36} = 11\frac{11}{36}$ Now I want you to try these two examples on your own.		

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$$\cancel{2}^1 \frac{1}{5} \times \frac{1}{3} \cdot \frac{11}{5} = \frac{11}{15}$$

$$\frac{2}{5} \times \cancel{3}^3 \cdot \frac{15}{4} = \frac{30}{20} = \frac{3}{2} = 1\frac{1}{2}$$

Strategy 2. Use the distributive property.  
Example 1.

$\frac{1}{2} \times 2\frac{3}{4}$  We can write  $2\frac{3}{4}$  as the sum of  $2 + \frac{3}{4}$ . So now our equation looks like this  $\frac{1}{2} \times \left(2 + \frac{3}{4}\right)$ . We can now distribute the  $\frac{1}{2}$  inside the parenthesis like so,  $\left(\frac{1}{2} \times 2 + \frac{1}{2} \times \frac{3}{4}\right)$ . We can now multiply across which gives us,

$$\frac{2}{2} + \frac{3}{8} = 1 + \frac{3}{8} = 1\frac{3}{8}$$

Example 2.

$$\frac{3}{5} \times 2\frac{1}{6} = \frac{3}{5} \times \left(2 + \frac{1}{6}\right) = \left(\frac{3}{5} \times 2 + \frac{3}{5} \times \frac{1}{6}\right) = \frac{6}{5} + \frac{3 \cdot 1}{30} = \frac{6}{5} + \frac{1}{10} = \frac{12}{10} + \frac{1}{10} = \frac{13}{10}$$

Now try these examples on your own.

$$\frac{1}{4} \times 4\frac{1}{5} = \frac{21}{20} = 1\frac{1}{20}$$

$$\frac{2}{7} \times 3\frac{15}{4} = \frac{30}{28} = 1\frac{2}{28}$$

Let's look at a word problem.

**School Banner** A banner is made for a pep rally. What is the area of the banner?

$$\textcircled{1} \frac{3}{5} \times \frac{14}{3} = \frac{42}{15} = 2\frac{2}{5}$$

$\uparrow \frac{1}{2} ft \times \frac{2}{3} ft$   
 $\downarrow \times 2 \quad \downarrow \times 3$   
 $\textcircled{1} \quad \textcircled{1} \quad 1 = 7 ft^2$

Okay now that we have gone through multiplying mixed numbers give me a thumbs up if you think hey, I've got this down. Give me a thumb to the side if you're doing okay but could use some extra practice. Give me a thumbs down if you have no idea what's going on.

**15 Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)**

Now we are going to do an activity with multiplying mixed number. Here is the handout.

You're going to take a dice and roll it three times, getting three numbers. You're going to write the numbers to fill in the blanks on the worksheet. Like this (I will roll the dice and get three numbers). I am going to put the smallest number on the top of the fraction and then I am going to pick where to put the other two numbers. I roll the dice again till all the blanks are filled. Then I am going to solve the problem. After to have completed the worksheet turn it into the basket.

**4 Review (wrap up and transition to next activity):**

If time I will give them the same question that were asked at the beginning of class to see their understanding on the lesson.

**Formative Assessment: (linked to objectives)**

**Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.**

At the end of the lesson, I will ask the students to give me a thumbs up on how they feel they understood the lesson. If I receive a thumb down I will work with those students while they do their activity.

**Consideration for Back-up Plan:**

If the activity does not seem like it is working. I will continue to go over examples and we will work through them together.

**Summative Assessment (linked back to objectives)**

**End of lesson:**

If time I will have them go over the examples, they did at the beginning of the lesson to see where their comprehension is at.

**If applicable- overall unit, chapter, concept, etc.:**

## Lesson Plan Template

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

The lesson went well the students were engaged and participating during the lesson. The students were raising their hands and eager to answer the questions. One thing I would change would be not to go over the distributive property. Math 6 was having a hard time understanding it and I felt it was not needed for them to understand the objective and standards that go along with this lesson. I would have just wanted to go over more examples of using strategy two which was turning the mixed numbers into an improper fraction. They enjoyed the dice activity as it gave them freedom to write their own problems and solve. My cooperating teacher also enjoyed the activity she used it for the rest of her math 6 classes the rest of the day with a little modification for it.

## Lesson Plan Template

### Activity

Roll the dice to fill in all the blanks.

Make sure the smallest number you roll is the numerator of the fraction!

$$\square \frac{\square}{\square} \times \square \frac{\square}{\square}$$

$$\square \frac{\square}{\square} \times \square \frac{\square}{\square}$$

$$\square \frac{\square}{\square} \times \square \frac{\square}{\square}$$

$$\square \frac{\square}{\square} \times \square \frac{\square}{\square}$$