

Grade 3	Lesson: 5-3 Multiplying with 0 and 1	Reference to English
<b>Math Standard(s):</b> 3.OA.9 also 3.OA.3, 3.OA.8		<b>Domain:</b> Operations and Algebraic Thinking
<b>Content objective(s):</b>		<b>Language Objective(s):</b>
Students will use patterns and properties to multiply with 0 and 1 as factors. <i>I can use patterns and properties to multiply with 0 and 1 as factors.</i>		Students will create a story problem multiplying by 1 or 0 and tell it to their partner. <i>I can create a story problem multiplying by 1 or 0 and tell it to my partner.</i>
<b>Essential Understanding:</b> There are patterns in the products for multiplication facts with factors of 0 and 1. The product of 0 and any number is 0. The product of 1 and any number is that number.		<b>Required Academic Vocabulary for Word Wall:</b> <b>Listen:</b> Identify (ONE) Property of Multiplication, Zero Property of Multiplication <b>Read:</b> <b>Write:</b> <b>Speak:</b> <b>Sentence Frame:</b>
<b>Materials:</b> <ul style="list-style-type: none"><li>Two-color counters (teaching tool 17)</li><li>Teaching Tool 38</li><li>Whiteboard, eraser, markers</li><li>Guided Practice page 124</li></ul>		<b>Additional Lesson Vocabulary:</b>
<b>Lesson:</b>		<b>Instructional Time:</b> 20 – 25 minutes
<p><b>Opening: (4 minutes)</b></p> <ul style="list-style-type: none"> <li>Pass out whiteboard, erasers and markers.</li> </ul> <p><b>T: “You’ve learned how to use patterns to create fact tables for multiplying with 2, 5, and 9. Today you’ll use the same ideas to discover patterns when you multiply with 0 and 1.”</b></p> <p><b>T: “Think back to when you multiplied with 2, 5 and 9. Did you multiply with 0 and 1 when you created your fact tables?”</b></p> <p><i>S: will respond, “yes.”</i></p> <p><b>T: “On your white board please write zero times 2, 5 and 9 as well as 1 times 2, 5, and 9.”</b></p> <p><i>S: will write <math>0 \times 2 = 0</math>, <math>0 \times 5 = 0</math>, <math>0 \times 9 = 0</math>, <math>1 \times 2 = 2</math>, <math>1 \times 5 = 5</math>, and <math>1 \times 9 = 9</math>.</i></p> <p><b>T: Do you see any patterns when multiplying by zero?”</b></p> <p><i>S: will respond, “yes, they all equal zero.”</i></p> <p><b>T: “Yes, they all equal zero! Do you see any patterns when multiplying by 1?”</b></p> <p><i>S: will respond, “yes, they always equal the number.”</i></p> <p><b>T: “Yes, when you multiply by 1 it equals the number you are multiplying 1 by.”</b></p> <p><b>Introduction to New Material (Direct Instruction): (3 minutes)</b></p> <p><b>T: “Jackson has 6 bowls. He puts 1 apple in each bowl. How many apples does he use?”</b></p> <p><b>T: “Please draw a picture of the problem.”</b></p> <p><i>S: will draw 6 bowls with 1 apple in each.</i></p> <p><b>T: “Now, please write the number sentence that goes with the pictures.”</b></p> <p><i>S: will write <math>6 \times 1 = 6</math> on their boards.</i></p> <p><b>T: “Show me your boards.”</b></p> <p><b>T: “Good job! You wrote 6 time 1 equals 6 on your board. That is correct.”</b></p> <p><b>Guided Practice: (6 minutes)</b> <i>Use the modeling cycle:</i> <b>Teacher Does:</b></p> <p><b>T: “Now I want you to work with a partner. Each of you will think of a story problem where you multiply by 1 or 0. Then tell the story to your partner and they will draw it and solve it.”</b></p> <p><u>1 Students Does with Teacher:</u></p> <p><b>T: “I need a volunteer to come up for a demonstration.”</b></p> <ul style="list-style-type: none"> <li>Teacher will choose a student.</li> </ul> <p><b>T: “I am going to tell you a story problem. As I tell you I need you to draw it. I have 8 students and I want to give them each 1 popsicle. How many popsicle do I need to buy?”</b></p> <p><i>S: will draw 8 students and 1 popsicle for each of them.</i></p> <p><b>T: “Perfect! Please write the multiplication sentence.”</b></p>		

S: will write  $8 \times 1 = 8$  in the board.

T: "Good, now it is your turn to tell me a story problem."

S: will tell the teacher a story problem with multiplying by 1 or 0 in it.

- Teacher will draw the story problem.

T: "Good job!"

- If the student did not do a story problem with a multiplication problem using zero in it, do one more problem.

T: "One more problem. Please draw it. I brought 4 candy bars to school with me that I wanted to give other teacher, but NO teachers wanted them. How many teachers took a candy bar?"

S: will draw 4 candy bars and write  $4 \times 0 = 0$ .

T: "Good job, 4 times 0 equals 0."

All Students Do:

T: "Now I want all of you to think of a story problem and tell your partner. When your partner tells you a story problem I want you to draw the story on your whiteboard."

- Separate the students into groups of 2.

T: "Now that you are separated into pairs, I want you to start telling stories! You have 4 minutes."

S: will create story problems and tell their neighbor as well as draw their neighbors' story problems.

- Walk around the room listening to the student stories.

T: "You have 30 seconds left."

T: "You guys were telling the best stories!"

Independent Practice: (4 minutes)

T: "Now it is time to answer some problems on your own. You need to go to your desk and open your book to page 124."

S: will go to their desk and open their books to page 124.

T: "Please complete problems 3, 5, 8, 13, 24, and 26. You have 3 minutes."

S: will complete the problems.

T: "Time is up. Please turn in your papers and come to the carpet."

Closing: (3 minutes)

T: "Today we learned about the Identity Property of Multiplication – which means when you multiply a number by 1 the product is that number."

T: "We also learned about the Zero Property of Multiplication – which means when you multiply a number by zero it is zero."

T: "Now, let's do a couple problems together. I am going to pass out your whiteboards and I want you to write the answers on your boards."

T: "Which number is greater,  $1 \times 6$    $8 \times 0$ . You need to write  $<$ ,  $>$ ,  $=$ .

- Write the problems on the board.  $2 \times 9$    $9 \times 1$  and  $0 \times 754$    $5 \times 1$
- Solve them as a class.

Assessment:

Guided Practice problems 3, 5, 8, 13, 24, and 26