

## Grade 3 Mathematics – Unit 3: Multiplication and Division

### Phoenixville Area School District

Stage 1 Desired Results		
<p><b>PA Core Standards:</b>                      CC.2.2.3.A.1                      Represent and solve problems involving multiplication and division.</p> <p>CC.2.2.3.A.2                      Understand properties of multiplication and the relationship between multiplication and division.</p> <p>CC.2.2.3.A.3                      Demonstrate multiplication and division fluency.</p> <p>CC.2.2.3.A.4                      Solve problems involving the four operations and identify and explain patterns in arithmetic.</p> <p>CC.2.2.3.A.4                      Solve problems involving the four operations and identify and explain patterns in arithmetic.</p>	<b>Transfer</b>	
	<p><b>TRANSFER GOALS</b>  <i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> <li>• Demonstrate automatic recall of addition, subtraction, multiplication and division facts.</li> <li>• Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems.</li> <li>• Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale.</li> </ul>	
	<b>Meaning</b>	
	<p><b>UNDERSTANDINGS</b>  <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• There are many ways to represent a number.</li> <li>• Operations and numerical properties increase computational fluency.</li> <li>• Depending on the situation, problems may be solved using a variety of tools and strategies.</li> <li>• Mathematical situations and structures can be represented and analyzed using symbols to advance algebraic thinking.</li> </ul>	<p><b>ESSENTIAL QUESTIONS</b>  <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> <li>• What are different ways to represent a number?</li> <li>• How are the basic operations related to one another? How do numerical properties assist in computation?</li> <li>• What information and strategies do I use to solve this problem? What is the right tool (operation/ strategy/ technology) for the job?</li> <li>• How do we use symbols to create mathematical meaning?</li> <li>• What is the unknown? How do I find it?</li> <li>• What does this expression/equation mean? What are the ways to represent it? Is there a best way?</li> </ul>

<b>Knowledge and Skills Acquisition</b>		
<p><b>PSSA Assessment Anchors:</b></p> <p>M03.B-O.1 Represent and solve problems involving multiplication and division.</p> <p>M03.B-O.2 Understand properties of multiplication and the relationship between multiplication and division.</p> <p>M03.B-O.3 Solve problems involving the four operations and identify and explain patterns in arithmetic.</p>	<p><b>KNOWLEDGE</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• Basic facts for multiplication</li> <li>• Commutative property</li> <li>• Associative property</li> <li>• Multiplication is repeated addition</li> <li>• Skip counting can be used to find products</li> <li>• Multiplication can be represented concretely and picture form (arrays, equal groups, area models)</li> <li>• Multiply one-digit whole numbers by multiples of ten and hundred</li> <li>• There is a relationship between multiplication and division</li> <li>• Basic facts for division</li> <li>• Mathematical language and vocabulary knowledge are required to know when to multiply or divide in a word problem</li> </ul> <p><b>VOCABULARY</b></p> <ul style="list-style-type: none"> <li>• Multiplication</li> <li>• Product/Factor</li> <li>• Repeated addition</li> <li>• Array</li> <li>• Division</li> <li>• Quotient/Divisor/Dividend</li> </ul>	<p><b>SKILLS</b> <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> <li>• Fluently multiply basic facts (0-10).</li> <li>• Fluently divide basic facts (0-10).</li> <li>• Using basic multiplication facts to find division facts using selected responses, multiple choice, and open-ended responses.</li> <li>• Applying various strategies to solve basic facts (skip counting, anchor facts, fact families, patterns) through verbal responses, drawings, and selected responses questions.</li> <li>• Applying properties of multiplication when solving equations by verbally explaining how an answer was conceived.</li> <li>• Multiplying one-digit whole numbers by multiples of ten and/or hundred verbally and in selected response questions.</li> <li>• Identifying the relationship between multiplication and division verbally, through selected responses and written explanations.</li> <li>• Making sense of math vocabulary and language to know when to add or subtract when solving a problem using selected response, open-ended, and performance tasks.</li> </ul>

## Stage 2 – Evidence

Code A/M/T	Evaluative Criteria	Assessment Evidence	
<p style="text-align: center;">A/M/T</p> <p>Acquisition</p> <p>Meaning Making</p> <p>Transfer</p>	<p><i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i></p>	<p><b>PERFORMANCE TASK(S)</b>  <i>Students will demonstrate understanding (meaning-making and transfer) through complex performance by...</i></p> <ul style="list-style-type: none"> <li>• <b>Performance Assessment Unit 4</b></li> </ul> <p>Students will apply various strategies to solve basic multiplication and division facts. Students will use basic multiplication facts to solve multiplication and division problems, and multiply one-digit whole numbers by multiples of ten and/or hundred.</p> <ul style="list-style-type: none"> <li>• <b>Goal:</b> Your task is to solve multiplication and division problems to complete a performance task(s).</li> <li>• <b>Role/Audience:</b> <i>Buying School Supplies</i></li> <li>• <b>Situation/Product:</b> You will use numbers and written expression to explain your answers</li> <li>• <b>Success Criteria:</b> Your answers must include your work, answer and a label.</li> </ul>	<p>Differentiation Considerations:</p> <p>Read Performance Task to Students</p>
<p style="text-align: center;">A/M/T</p> <p>Acquisition</p> <p>Meaning Making</p> <p>Transfer</p>	<p><i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i></p>	<p><b>OTHER EVIDENCE</b></p> <ul style="list-style-type: none"> <li>• Math in Focus 2020 Chapter Test 4</li> <li>• Teacher Observation</li> <li>• Teacher created quizzes</li> <li>• Small Group Work</li> </ul>	<p>Differentiation Considerations:</p> <p>Small Group reteaching</p> <p>Enrichment/Put on Your Thinking Cap, Math Journal</p>