

Unit 9: Multiplication

Unit #:	APSDO-00017524	Duration:	10.0 Day(s)	Date(s):	05-10-2017 to 05-10-2017
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Grades:

2

Subjects:

Mathematics

Unit Focus

In this unit, students will begin to explore multiplication through the use of repeated addition to find the total number of objects arranged in rectangular arrays with up to five rows and five columns. For example, 4×5 means 4 groups of 5 as well as $5 + 5 + 5 + 5$. Students will write equations to express sums as equal addends. Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Established Goals	Transfer
<p>Common Core <i>Mathematics: 2</i></p> <ul style="list-style-type: none"> Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. <i>CCSS.MATH.CONTENT.2.OA.C.3</i> Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. <i>CCSS.MATH.CONTENT.2.OA.C.4</i> 	<p>T1 (T20) Compose and decompose numbers to establish relationships, perform operations, and solve problems.</p> <p>T2 (T21) Perform operations in a conventional order within the real and complex number system.</p> <p>T3 (T22) Describe and/or solve problems using algebraic expressions, equations, inequalities, and functions.</p> <p>T4 (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution.</p> <p>T5 (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense.</p> <p>T6 (T51) Examine alternate methods to accurately and efficiently solve problems.</p> <p>T7 (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts.</p>
	<p style="text-align: center;">Meaning</p>

Understandings	Essential Questions
<p>U1 (U201) The same value can be represented in multiple ways.</p> <p>U2 (U202) The application of specific properties and order of operations can simplify expressions, solve equations, and combine functions.</p> <p>U3 (U205) Expressions, equations, inequalities, and functions use symbols to represent quantities, operations, and their relationships.</p> <p>U4 (U531) Models can distort or reveal patterns; therefore it is essential to recognize the appropriate representation.</p> <p>U5 (U561) Recognition of patterns and structures fosters efficiency in solving problems.</p>	<p>Q1 (Q200) What rule or pattern can help me simplify the expression or solve this problem?</p> <p>Q2 (Q204) What is the value of this number/relationship and how can I represent it in different ways?</p> <p>Q3 (Q531) What values, numbers, quantities, and/or symbols can be used to solve a problem?</p> <p>Q4 (Q533) How do I use the model to solve other problems?</p> <p>Q5 (Q560) What is the pattern/structure in this problem?</p> <p>Q6 (Q561) How does understanding the pattern/structure help me solve the problem?</p>
Acquisition of Knowledge and Skill	
Knowledge	Skills
	<p>S1</p> <p>Use repeated addition to find the total of objects arranged in arrays</p> <p>S2</p> <p>Express the sum of repeated addends in an equation (i.e., $5 + 5 + 5 + 5 = 20$)</p> <p>S3</p> <p>Determine whether a group of objects (up to 20) has an odd or even number of members. e.g., by pairing objects or counting them by 2s, drawing arrays, write an equation to express an even number as a sum of two equal addends)</p>