

Unit 2: Computing with Whole Numbers

Unit #:	APSDO-00016992	Duration:	19.0 Day(s)	Date(s)	09-27-2016
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Grade(s)
 5

Subject(s)
 Mathematics

Unit Focus

In this unit, students will build on their understanding of multiplication and division as inverse operations. They will multiply multi-digit whole numbers. They will also find whole number quotients and remainders (up to four digit dividends and two digit divisors). They will learn the process of division, but they will also understand the *relationship* between division and multiplication. Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Standard(s)	Transfer
<p>Common Core <i>Mathematics: 5</i></p> <ul style="list-style-type: none"> • Fluently multiply multi-digit whole numbers using the standard algorithm. <i>CCSS.MATH.CONTENT.5.NBT.B.5</i> • Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. 	<p>T1 (T10) Describe, classify, and compare objects/numbers and sets of objects/numbers. T2 (T11) Use descriptions to clarify and/or solve problems. T3 (T12) Compose and decompose numbers to establish relationships and perform operations. T4 (T14) Perform operations within the real and complex number system. T5 (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution. T6 (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense. T7 (T51) Examine alternate methods to accurately and efficiently solve problems. T8 (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts.</p>
	Meaning

	Understanding(s)	Essential Question(s)
	<p>U1 (U100) Objects and sets of objects can be given numerical descriptions.</p> <p>U2 (U101) When objects/numbers are combined, mathematical rules guarantee the resulting quantity.</p> <p>U3 (U103) The same value can be represented in multiple ways.</p> <p>U4 (U500) Effective problem solvers work to understand the problem before trying to solve it.</p> <p>U5 (U520) Effective arguments are based on logical mathematical thinking.</p> <p>U6 (U550) Attention to detail, such as specifying units of measure and labeling, leads to clarity in expressing mathematical information.</p>	<p>Q1 (Q101) How do I classify/compare objects or sets of objects?</p> <p>Q2 (Q102) What rule do I know OR what pattern can I recognize to help me make a prediction/solve this problem?</p> <p>Q3 (Q103) What is the value of this number/relationship and how can I represent it in different ways?</p> <p>Q4 (Q104) How do I use my number sense to perform operations?</p> <p>Q5 (Q503) What strategies/approaches are best for this problem?</p> <p>Q6 (Q520) Does the argument/thought process/logic make sense?</p> <p>Q7 (Q550) Did I use clear language (symbols, labels, terms, units of measure and significant digits) to explain my reasoning to others?</p>
Acquisition of Knowledge and Skill		
	Knowledge	Skill(s)
		<p>S1</p> <p>Estimate products</p> <p>S2</p> <p>Multiply multi digit numbers using a variety of methods</p> <p>S3</p> <p>Estimate quotients</p> <p>S4</p> <p>Find whole number quotients and remainders with up to four-digit dividends and two-digit divisors, using strategies based on place value and properties of operations</p>

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