Unit 3: Place Value and Multiplication

Unit #:	APSDO-00040501	Duration:	14.0 Day(s)	Date(s)	

Team:
Mary Labowsky (Author), Kerry Lurate, Ann Marie Castle, Kate Matos, Jonathan Moss, Michelle Gladue, Brian Kelly, Laura McDonnell, Nancy Wall, Lynne Zemaitis, Laurie Mone, Kimberly Bray
Grade(s)
4
Subject(s)
Mathematics

Unit Focus

In this unit, students will use their understanding of place value to multiply 1-digit numbers by a number up to 4 digits, as well as multiply 2-digit numbers by 2-digit numbers. They will solve multiplication word problems, using arrays and area models.Primary instructional materials for this unit include On Core and Everyday Mathematics.

Stage 1: Desired Results - Key Understandings

Standard(s)

Common Core
Mathematics: 4

- Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
  CCSS.MATH.CONTENT.4.NBT.B.5

Transfer

T1 (T20) Compose and decompose numbers to establish relationships, perform operations, and solve problems.
T2 (T10) Describe, classify, and compare objects/numbers and sets of objects/numbers.
T3 (T13) Move from one representation to another without changing the quantity.
T4 (T50) Based on an understanding of any problem, initiate a plan, execute it and evaluate the reasonableness of the solution.
T5 (T53) Articulate how mathematical concepts relate to one another in the context of a problem or in the theoretical sense.
T6 (T51) Examine alternate methods to accurately and efficiently solve problems.
T7 (T52) Use appropriate tools strategically to deepen understanding of mathematical concepts.

Meaning

Understanding(s)	Essential Question(s)

	U1 (U203) Certain mathematical manipulations preserve the relationship in an expression or equation, even though they change the representation. **U2** (U103) The same value can be represented in multiple ways. **U3** (U102) The value of a number is quantified by the placement of its digits. **U4** (U502) Effective problem solvers identify and apply an appropriate model, tool, or strategy. **U5** (U530) Every problem belongs to a category of problems that has a similar structure and set of characteristics; which means it can be solved using a similar model.	**Q1** (Q200) What rule or pattern can help me simplify the expression or solve this problem? **Q2** (Q203) What is the relationship between/among these values? **Q3** (Q103) What is the value of this number/relationship and how can I represent it in different ways? **Q4** (Q104) How do I use my number sense to perform operations? **Q5** (Q500) What is a reasonable estimate? **Q6** (Q503) What strategies/approaches are best for this problem? **Q7** (Q532) Which model best represents this problem?
	Acquisition of Knowledge and Skill	
	Knowledge	**Skill(s)**
		S1 Write the number value for a digit within the actual number **S2** Round numbers up to different place values, up to the nearest 1,000,000 place **S3** Multiply 1 digit number by a number up to 4 digits **S4** Multiply 2-digit numbers by 2 digit numbers