Grade 4 – Unit 2
Multiplication

Parent Letter

Dear Fourth Grade Families,

In Unit 2, students will work on the following fourth grade Common Core standards in the domains of Number & Operation in Base Ten (NBT) and Operations & Algebraic Thinking (OA):

4.OA.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
4.OA.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
4.OA.4	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
4.OA.5	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*
4.NBT.5	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.

Need a review?
Have your student login to Swun Math to access lesson support videos.

We encourage you to talk with your child daily about what was learned in math class.
Thank you for your support!

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Unit 2 Concepts:

- Multiplicative Comparisons
- Factor Pairs
- Multiplication using the Distributive Property
- Multiplication using the Area Model
- Multiplication with One- and Two-Digit Numbers
- Multiplication Patterns using a Rule & Function Table
- Multiplication with Word Problems

Unit 2 Vocabulary:

- Multiplicative comparison
- Multiple
- Prime number
- Composite number
- Distributive Property
- Decompose
- Expanded notation
- Area model
- Repeating pattern
- Growing pattern

Area model:

79 × 18 = 1,422

	70	+	9
10	70 × 10 = 700		9 × 10 = 90
8	70 × 8 = 560		9 × 8 = 72

70	×	10	=	700
70	×	8	=	560
9	×	10	=	90
9	×	8	=	72
				1,422

Distributive property: a product can be found by decomposing (breaking down) one of the factors into smaller numbers, multiplying the two new number sentences, and then adding the products

Example:

3 × 56

3 × (50 + 6) = (3 × 50) + (3 × 6)
= 150 + 18
= 168

Ask questions like these to help your child become a productive mathematical thinker:

- What is a multiplicative comparison? When could you use a multiplicative comparison in a real-world situation?
- Explain the difference between a prime and a composite number.
- Show me how you decompose a number to use the distributive property. How does that help you with multiplication?
- Tell me about the area model for multiplication. How does it help you conceptualize what's happening when you multiply?
- How does expanded notation help you with multiplication? How does it help you use the area model for multiplication?
- You learned about decomposing numbers a long time ago. How does that help you use the distributive property of multiplication as a fourth grader?
- Give me an example of a real-world situation in which a pattern allowed you to use multiplication to solve a problem.
- What key words have you learned that signal multiplication is the way to solve a problem?