Unit **6**

# Family Letter

Florida Reveal MATH®

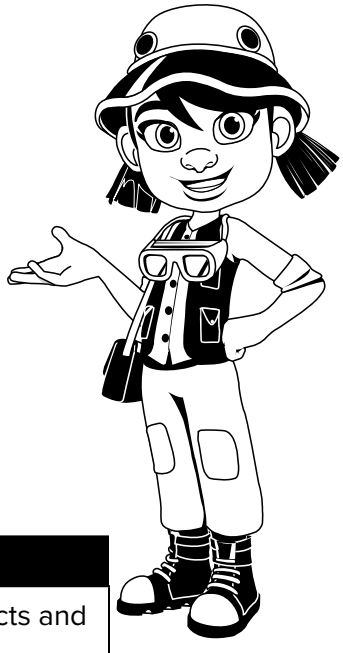
Dear Family,

In this unit, Multiplication Strategies with Multi-Digit Numbers, your child will estimate products using compatible numbers and rounding, and use the Distributive Property. They will also multiply a whole number of up to three digits by a whole number of up to 2-digits, using strategies such as area models and traditional algorithms.

**STEM Career Kid for this Unit**

**Hi, I'm Maya.**

I want to be a geologist. I will use math in my job when I study Earth's materials, such as rocks and minerals. I can use multiplication to find the amount of a valuable material in a certain location.



## What math terms will your child use?

| Term | Student Understanding |
|---|---|
| area model | a rectangular diagram used to help find partial products and the product of two numbers |
| Distributive Property of Multiplication | the product of two factors is equal to the sum of the products of one factor and each addend of the decomposed factor |
| partial products | numbers that represent a portion of the product of two numbers; add partial products to find the product |
| range | two numbers between which the answer is expected to fall |

**Math @ Home Activity**

## What can your child do at home?

Have your child practice multiplying multi-digit numbers. Tell your child to roll 4 number cubes to create a 3-digit factor and a 1-digit factor. Have your child use a multiplication strategy they learned in class to find the product of the two factors. Ask your child to explain how they found the product.

# What Will Students Learn in This Unit?

## Estimating Products

Your child will use compatible numbers to help them estimate the product of two numbers. Compatible numbers are numbers close to the actual factor that are easy to multiply.

*Example*:

$139 \times 6 \rightarrow 150 \times 6 = 900$

## Using the Distributive Property to Multiply

Your child will practice using the Distributive Property of Multiplication to solve multiplication equations. The essential understanding is that a factor can be decomposed and its parts multiplied by the other factor.

*Example*:

$5 \times 7 = (5 \times 5) + (5 \times 2)$

$5 \times 7 = 25 + 10$

$5 \times 7 = 35$

## Using Partial Products to Multiply Two 2-Digit Factors

Your child will learn how to use partial products to multiply two 2-digit factors. The first step is to decompose two factors into numbers that are easier to multiply. Next, the product of each part, or the partial products, are found and then added to find the product of the two 2-digit factors. For many students, using an area model makes multiplying 2-digit numbers more visual and easier.

*Example*:

| | 20 | +7 |
|---|---|---|
| 10 | **200** | **70** |
| + | | |
| 8 | **160** | **56** |

$$\begin{array}{r} 18 \\ \times\ 27 \\ \hline 200 = 10 \times 20 \\ 70 = 10 \times 7 \\ 160 = 8 \times 20 \\ +\ 56 = 8 \times 7 \\ \hline \mathbf{486} \end{array}$$

## Using an Algorithm to Multiply

Your child will learn how to use the standard algorithm to multiply three-digit numbers by factors of up to two digits. Students will rehearse their fluency skills with multiplication facts, and understand the role of place value in multi-digit multiplication.

*Example*:

$$\begin{array}{rr} & {\scriptstyle 1} \\ & 213 \\ \times & 16 \\ \hline & 1,278 \\ + & 2,130 \\ \hline & 3,408 \end{array}$$