



## Topic A

# Multiplication and the Meaning of the Factors

## 3.OA.1, 3.OA.3

<b>Focus Standard:</b>	3.OA.1	Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each. <i>For example, describe a context in which a total number of objects can be expressed as <math>5 \times 7</math>.</i>
<b>Instructional Days:</b>	3	
<b>Coherence -Links from:</b>	G2–M6	Foundations of Multiplication and Division
<b>-Links to:</b>	G4–M3	Multi-Digit Multiplication and Division

Lesson 1 introduces students to multiplication, starting with the concept of repeated addition, which is familiar from Grade 2. Students use repeated addition to find totals; for example, they use counters to make 6 equal groups of 2. They learn to recognize equal groups of counters as units and count units using the language of groups and unit form: “6 equal groups of 2 counters make 12 counters,” or “6 twos make 12.” By the end of Lesson 1, students use the multiplication symbol to represent these descriptions as more efficient multiplication equations.

In Lesson 2, students relate the equal groups of objects in scattered configurations from Lesson 1 to the array model, exploring the correspondence between 1 equal group and 1 row. They begin to distinguish between the number of groups and the size of groups as they count rows and *how many in 1 row* to write multiplication facts. Students recognize the efficiency of arrays as they skip-count to find totals. In Lesson 2, students use the following vocabulary: *row*, *array*, *number of groups*, and *size of groups*.

Lesson 3 solidifies students’ ability to differentiate the meaning of factors. Students model dividing a whole into equal groups as well as analyze equal groups in scattered configurations and arrays to determine whether factors represent the number of groups or the size of groups. They create pictures, number bonds, and multiplication equations to model their understanding.

In this topic, students use a variety of factors since these lessons emphasize understanding the concept of multiplying rather than finding totals. Later topics limit facts to those involving one or two specific factors, allowing students to build fluency with simpler facts before moving on to more difficult ones.

**A Teaching Sequence Towards Mastery of Multiplication and the Meaning of the Factors**

**Objective 1:** Understand *equal groups of* as multiplication.  
(Lesson 1)

**Objective 2:** Relate multiplication to the array model.  
(Lesson 2)

**Objective 3:** Interpret the meaning of factors—the size of the group or the number of groups.  
(Lesson 3)