



Topic H

Patterns with Adding 0 and 1 and Making 10

K.OA.1, K.OA.2, K.OA.4

Focus Standards:	K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem. This applies wherever drawings are mentioned in the Standards.)
	K.OA.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
	K.OA.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
Instructional Days:	5	
Coherence	-Links from:	GPK–M5 Addition and Subtraction Stories and Counting to 20
	-Links to:	G1–M1 Sums and Differences to 10

In Topic H, students begin to see patterns when adding 0 and 1. They also find the number that makes 10 when added to a given number (**K.OA.4**). Lesson 37 explores the additive identity: zero. Students learn that adding or subtracting zero does not change the original quantity. In this lesson, students also begin to see the inverse relationship of addition and subtraction. “There were 8 children playing. 2 more came to play. Then, there were 10. But then, 2 children had to go home. Then, there were only 8 children playing.” ($8 + 2 = 10$; $10 - 2 = 8$.)

Lesson 38 uses 5-groups to see patterns when adding 1. Once again, focusing on the 5-group helps move students to Level 2 counting on strategies. Lessons 39 and 40 focus on making compositions to 10. “How many more does 6 need to make 10? Draw a picture of 6 in a 5-group. How many do you need to draw to make 10? Let’s make a record of that with an addition equation.” ($6 + 4 = 10$.)

This module concludes with a culminating activity that calls on students to use what they have learned to teach others how to think about a part–part–whole situation. Students choose tools strategically to model and represent a stick of 10 cubes broken into two parts. This is an excellent opportunity to bring in another class, family members, administrators, or community volunteers to serve as enthusiastic *students* for individual student presentations.

A Teaching Sequence Toward Mastery of Patterns with Adding 0 and 1 and Making 10

- Objective 1:** Add or subtract 0 to get the same number and relate to word problems wherein the same quantity that joins a set, separates.
(Lesson 37)
- Objective 2:** Add 1 to numbers 1–9 to see the pattern of *the next number* using 5-group drawings and equations.
(Lesson 38)
- Objective 3:** Find the number that makes 10 for numbers 1–9, and record each with a 5-group drawing.
(Lesson 39)
- Objective 4:** Find the number that makes 10 for numbers 1–9, and record each with an addition equation.
(Lesson 40)
- Objective 5:** Culminating task—choose tools strategically to model and represent a stick of 10 cubes broken into two parts.
(Lesson 41)