**Topic C**

**Comparison of Volume**

**PK.MD.1**

**Focus Standard:** PK.MD.1 Identify measurable attributes of objects, such as length, and weight. Describe them using correct vocabulary (e.g., small, big, short, tall, empty, full, heavy, and light).

**Instructional Days:** 4

**Coherence -Links to:** GK–M3 Comparison of Length, Weight, Capacity, and Numbers to 10.

The concept of volume for Pre-K students and the vocabulary used to describe and compare it (big, small, more, and less) is perhaps the most familiar to young children, compared to the previous topics of length and weight. The language used to describe volume bridges directly into the language used to compare numbers using more than or less than (with more than eventually giving way to greater than). In Lesson 9, students pack various grocery items in both big and small grocery bags and say, for example, “This cereal box fits in the big bag.”

In Lesson 10, students compare the capacity of different-sized containers at the sand and water tables, exploring which container holds more and which one holds less. First, students pour between identical containers to see that they hold the same amount. Second, they pour the same amount between different containers to see that the same amount looks different. Third, students pour a full container into another larger or smaller container to see that either it doesn’t fill the larger container all the way, or it spills over the edge of the smaller container. Students may observe, “This cup holds more than that one because look, some of the water is spilling!” or “This cup holds less than that one because it doesn’t fill up.”

After students have explored volume in terms of big, small (PK.MD.1), more than, and less than, they investigate the concept of conservation and the same as in the context of volume. Lesson 11 begins with students filling two identical plastic cups with the same amount of sand. Next, students pour each cup of sand into two different pint-sized containers (one tall and thin, one short and wide). They respond to the question, “Do these containers still hold the same amount of sand?” “Yes!” Students continue to pour the sand back and forth from containers to cups and vice versa to prove that the amount of sand is the same regardless of its container; hence, the amount is conserved.

Comparison of length, weight, and volume concludes with Lesson 12 as students find objects that match given comparison statements using the game I Spy: “I spy with my little eye something that is heavier than this book.” Students celebrate their learning by visiting length, weight, and volume stations. At the stations, they use new math vocabulary to compare measurements (straight objects and cubes), weights (balance scales), and capacity (containers with rice or beans).
In Topic C Fluency Practice, students gain mastery of the counting sequence as they now identify errors in the count. They count all with totals within 10, which serves as a precursor to understanding simple addition stories. In addition, they continue to practice drawing tallies, this time in the sand, to prepare for writing numerals in Module 5.

A Teaching Sequence Toward Mastery of Comparison of Volume

Objective 1: Identify the attribute of volume by describing containers as big or small. (Lesson 9)

Objective 2: Compare volume using more than or less than. (Lesson 10)

Objective 3: Compare volume using the same as with sand and explore conservation. (Lesson 11)

Objective 4: Find objects that match given length, weight, and volume comparison statements. (Lesson 12)