

## Grade K• Module 3

# Comparison of Length, Weight, Capacity, and Numbers to 10

## OVERVIEW

Having observed, analyzed, and classified objects by shape into predetermined categories in Module 2, students now compare and analyze length, weight, capacity, and finally, numbers in Module 3. Students use language such as *longer than*, *shorter than*, *as long as*; *heavier than*, *lighter than*, *as heavy as*; and *more than*, *less than*, *the same as*. “8 is *more than* 5.” “5 is *less than* 8.” “5 is *the same as* 5.” “2 and 3 is also *the same as* 5.”

Topics A and B focus on comparison of length, Topic C on comparison of weight, and Topic D on comparison of volume (**K.MD.2**). Each of these topics opens with an identification of the attribute being compared within the natural context of the lesson (**K.MD.1**). For example, in Topic A, before exploring length, students realize they could have chosen to compare by a different attribute: weight, length, volume, or numbers (**K.MD.1**).

- T: Students, when you compare and say it is bigger, let’s think about what you mean. (After each question, allow students to have a lively, brief discussion.)
- T: Do you mean that it is bigger, like this book is *heavier than* this ribbon? (Dramatize the weight of the book and ribbon.)
- T: Do you mean that it is longer, like this ribbon is *longer than* this book? (Dramatize the length of the ribbon.)
- T: Do you mean that it takes up more space, like this book *takes up more space* than this ribbon when it is all squished together? (Dramatize.)
- T: Do you mean to compare the number of things, like *the number* of books and ribbons? (Dramatize a count.)
- T: So, we can compare things in different ways! Today, let’s compare by thinking about longer than, taller than, or shorter than. (Dramatize.)

After the Mid-Module Assessment, Topic E begins with an analysis using the question, “Are there enough?” This leads naturally from exploring when and if there is enough space to seeing whether there are enough chairs for a small set of students: “There are fewer chairs than students!” This bridges into Topics F and G, which present a sequence building toward the comparison of numerals (**K.CC.7**). Topic F begins with counting and matching sets to compare (**K.CC.6**). The module culminates in a three-day exploration, one day devoted to each attribute: length, weight, and volume (**K.MD.2**). The module closes with a culminating task devoted to distinguishing between the measurable attributes of a set of objects: a water bottle, cup, dropper, and juice box (**K.MD.1**).

The module supports students' understanding of amounts and their developing number sense. For example, counting how many small cups of rice are contained within a larger quantity provides a foundational concept of place value: Within a larger amount are smaller equal units, which together make up the whole. "4 cups of rice is the same as 1 mug of rice." Compare that statement to "10 ones is the same as 1 ten" (1.NBT.2a). As students become confident directly comparing the length of a pencil and a crayon with statements such as "The pencil is longer than the crayon" (K.MD.2), they will be ready in later grades to indirectly compare using length units with statements such as "The pencil is longer than the crayon because 7 cubes is more than 4 cubes" (1.MD.2).

Additional foundational work for later grades is as follows:

- **Foundational work with equivalence.** The length of a stick with 5 linking cubes is the same as the length of my cell phone. A pencil weighs the same as a stick with 5 linking cubes. Each module component on measurement closes with a focus on *the same as*.
- **Foundational work for the precise use and understanding of rulers and number lines.** The module opens with lessons pointing out the importance of aligning endpoints to measure length.
- **Foundational understanding of area.** At the opening of the second half of the module, students informally explore area as they see whether a yellow circle fits inside a red square. They then see how many small blue squares will fit inside the red square and, finally, that many beans will cover the same area (pictured to the right).
- **Foundational understanding of comparison.** As students count to compare the length of linking cube sticks, they are laying the foundation for answering *how many more...than/less...than* questions in Grade 1 (1.MD.2).

