Grade K • Module 1

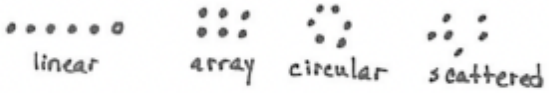
Numbers to 10

OVERVIEW

The first day of Kindergarten is long anticipated by parents and young students. Students expect school to be a dynamic and safe place to learn, an objective that is realized immediately by their involvement in purposeful and meaningful action.

In Topics A and B, classification activities allow students to analyze and observe their world and articulate their observations. Reasoning and dialogue begin immediately. "These balloons are exactly the same." "These are the same but a different size." As Topic B closes, students recognize cardinalities as yet one more lens for classification (**K.MD.3**). "I put a pencil, a book, and an eraser, three things, in the backpack for school." "I put five toys in the closet to keep at home." From the moment students enter school, they practice the counting sequence so that when counting a set of objects, their attention can be on matching one count to one object, rather than on retrieving the number words (**K.CC.4a**).

In Topics C, D, E, and F, students order, count (**K.CC.1**), and write (**K.CC.3**) up to ten objects to answer *how many* questions from linear, to array, to circular, and finally to scattered configurations wherein they must devise a path through the objects as they count. Students use their understanding of numbers and matching numbers with objects to answer *how many* questions about a variety of objects, pictures, and drawings (**K.CC.5**).



They learn that the last number name said tells the number of objects counted (**K.CC.4b**). Daily, they engage in mathematical dialogue. They might compare their seven objects to a friend's. For example, "My cotton balls are bigger than your cubes, but when we count them, we both have seven!"

Very basic expressions and equations are introduced early in order to ensure students' familiarity with numbers throughout the entire year so that they exit fluent in sums and differences to 5 (**K.OA.5**). Decomposition is modeled with small numbers with materials and drawings and as addition equations. Students see that both the expression 2 + 1 (Topic C) and the equation 3 = 2 + 1 (Topic D) describe a stick of three cubes decomposed into two parts (**K.OA.3**). Emphasis is not placed on the expressions and equations or using them in isolation from the concrete and pictorial—they are simply included to show another representation of decompositions alongside counters and drawings.

In Topics G and H, students use their understanding of relationships between numbers to recognize that each successive number name refers to a quantity that is one greater and that the number before is one less (**K.CC.4c**). This important insight leads students to use the Level 2 strategy of counting on rather than counting all later in the year and on into Grade 1.

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In this module, daily fluency activities with concentration and emphasis on counting (**K.CC.4ab**, **K.CC.5**) are integrated throughout the concept development: "I counted six beans in a row. I counted six beans in a circle and then squished them together and counted again. There were still six!" "I can make my six beans into rows, and there are no extras." Students complete units of five using the fingers of their left hand and 5-groups. The numbers 6, 7, 8, and 9 are introduced relative to the number 5: "Five fingers and ____ more." Students also explore numbers 5 to 9 in relation to 10, or two complete fives: "Nine is missing one to be ten or two fives." (**K.OA.4**)

As students begin to master writing numbers to 10, they practice with paper and pencil. This is a critical daily fluency that may work well to close lessons, since management of young students is generally harder toward the end of math time. The paper and pencil work is calming, though energized.