MATHEMATICAL IDEAS & CONCEPTS:
- Continue to know number names and the count sequence
- Continue to count to tell the number of objects
- Begin to compare number of objects *(new this quarter)*
- Begin to represent modeling strategies to solve simple joining and separating situations
- Continue to decompose numbers up to 10 using objects
- Describe and compare objects
- Identify, describe, and begin to *model* shapes

ESSENTIAL QUESTIONS:
1. *What do good counters do when counting?*

1. *How can we represent what happens when we combine groups and when we take groups apart?*

2. *How do we compare objects?*

1. *How do we describe and model shapes in our environment?*

STANDARDS:
Aligned to Essential Questions; (★) Big Idea/Concept Standard with supporting standards (➔) connected below

Notes in gray font are from the AR Mathematics standards; RPS instructional pacing notes are in red font

EQ 1: What do good counters do when counting?
- ★ **K.CC.A.1** Count to 100 by ones, fives, and tens *Q2 Expectation: Count to at least 50 by ones, and 100 by tens*
    - ➔ **K.CC.A.2** Count forward, by ones, from any given number up to 100 *Q2 Expectation: Count to at least 50 by ones*

- ★ **K.CC.B.4** Understand the relationship between numbers and quantities; connect counting to cardinality.
  When counting objects:

    - Say the numbers in order, pairing each object with only one number and each number with only one object (one to one correspondence)
    - Understand that the last number said tells the number of objects counted
    - Understand that each successive number refers to a quantity that is one larger
    - ➔ **K.CC.A.3** Read, write, and represent numerals from 0 to 20 *Q2 Expectation: at least up to 10*
        Note: K.CC.A.3 addresses the writing of numbers and using the written numerals 0-20 to describe the amount of a set of objects. Due to varied progression of fine motor and visual development, a reversal of numerals is anticipated for the majority of students. While reversals should be pointed out to students, the emphasis is on the use of numerals to represent quantities rather than the correct handwriting of the actual number itself.
    - ➔ **K.CC.C.6** Identify whether the number of objects in one group from 0-10 is greater than (more, most), less than (less, fewer, least), or equal to (same as) the number of objects in another group of 0-10. *For example:* Use matching and counting strategies to compare *values*. *new this quarter*

- ★ **K.CC.B.5** Count to answer "how many?":
    - Count up to 20 objects in any arrangement
    - Count up to 10 objects in a scattered configuration
    - Given a number from 1-20, count out that many objects
    Note: K.CC.B.5 As students progress, they may first move the objects, counting as they move them. Students may also line up objects to count them. If students have a scattered arrangement, they may touch each item as they count it, or if students have a scattered arrangement, they may finally be able to count them by visually scanning without touching the items
        - ➔ **K.CC.C.8** Quickly identify a number of items in a set from 0-10 without counting (e.g., dominoes, dot cubes, tally marks, ten-frames)

EQ 2: How can we represent what happens when we combine groups and when we take groups apart?

Problem types include: join result unknown (JRU), separate result unknown (SRU), join change unknown (JCU), and part-part-whole whole unknown (PPW-WU)

★ **K.OA.A.2** Solve real-world problems that involve addition and subtraction within 10 (e.g., by using objects or drawings to represent the problem)

➔ **K.OA.A.1** Represent addition and subtraction using objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, *expressions* (e.g., 2+3), or *equations* (e.g., 2+3 =)

Note: K.OA.A.1 Expressions and equations are not required but are recommended by the end of Kindergarten.

Q2 Expectation: represent problem solving using objects, fingers, mental images, sounds, acting out situations. Written representations not expected until 3rd & 4th quarter.

★ **K.OA.A.3** Use objects or drawings to decompose (break apart) numbers less than or equal to 10 into pairs in more than one way, and record each decomposition (part) by a drawing or an equation (e.g., 5 = 2 + 3 and 5 = 4 + 1) *Q2 Expectation: decompose numbers up to 10 using objects*

Note: K.OA.A.3 Students should see equations and be encouraged to recognize that the two parts make the whole. However, writing equations is not required.

EQ 3: How do we compare objects?

★ **K.MD.A.2** Describe the difference when comparing two objects (side-by-side) with a measurable *attribute* in common, to see which object has more of or less of the common *attribute*   *These standards are easily paired with science concepts*

➔ **K.MD.A.1** Describe several measurable *attributes* of a single object, including but not limited to length, weight, height, and temperature.

Note: K.MD.A.1 Vocabulary may include short, long, heavy, light, tall, hot, cold, warm, or cool.

➔ **K.MD.B.3** Classify, sort, and count objects using both measurable and non-measureable *attributes* such as size, number, color, or shape

Note: K.MD.B.3 Limit category count to be less than or equal to 10. Students should be able to give the reason for the way the objects were sorted.

This is a good introduction to counting collections.

EQ 4: How do we describe and model shapes in our environment?

★ **K.G.B.4** Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/corners), and other *attributes* (e.g., having sides of equal length)

Note: K.G.B.4 2-D shapes: squares, circles, triangles, rectangles, and hexagons; 3-D shapes: cube, cone, cylinder, and sphere

Standards could be connected to K.MD.B.3 when sorting and classifying

➔ **K.G.A.1** Describe the positions of objects in the environment and geometric shapes in space using names of shapes, and describe the relative positions of these objects

Note: K.G.A.1 Positions could be inside, outside, between, above, below, near, far, under, over, up, down, behind, in front of, next to, to the left of, to the right of, or beside.

➔ **K.G.A.2** Correctly name shapes regardless of their orientations or overall size

Note: K.G.A.2 Orientation refers to the way the shape is turned (upside down, sideways).

➔ **K.G.B.5** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and by drawing shapes *new this quarter*

Additional Standards

➔ **K.MD.C.4** *Yearlong standard with minimal instructional focus*

● Understand concepts of time including morning, afternoon, evening, today, yesterday, tomorrow, day, week, month, and year

● Understand that clocks, both analog and digital, and calendars are tools that measure time