Maine Mathematics

# Grade K

Adopted 2020

## Standards for Mathematical Practice

1. **Make sense of problems and persevere in solving them - Students will plan strategies to use and persevere in solving math problems.** MP.1
2. **Reason abstractly and quantitatively - Students will think about numbers in many ways and make sense of numerical relationships as they solve problems.** MP.2
3. **Construct viable arguments and critique the reasoning of others - Students will explain their thinking and make sense of the thinking of others.** MP.3
4. **Model with mathematics - Students will use representations to show their thinking in a variety of ways.** MP.4
5. **Use appropriate tools strategically - Students will use math tools such as tables, diagrams, and technology to explore and deepen their understanding of concepts.** MP.5
6. **Attend to precision - Students will use precise mathematical language and check their work for accuracy.** MP.6
7. **Look for and make use of structure - Students will use their current mathematical understandings to identify patterns and structure to make sense of new learning.** MP.7
8. **Look for and express regularity in repeated reasoning - Students will look for patterns and rules to help create general methods and shortcuts that can be applied to similar mathematical problems.** MP.8

**Quantitative Reasoning**

**Counting and Cardinality**

1. Know the number names and the count sequence. QR.C.1
    1. Count to 100 by ones and by tens K.CC.A.1
    2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1) K.CC.A.2
    3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects) K.CC.A.3
2. Count to tell the number of objects. QR.C.2
    4. Understand the relationship between numbers and quantities; connect counting to cardinality. K.CC.B.4
        a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. K.CC.B.4.A
        b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. K.CC.B.4.B
        c. Understand that each successive number name refers to a quantity that is one larger. Recognize the one more pattern of counting using objects. K.CC.B.4.C
    5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects. K.CC.B.5
3. Compare numbers. QR.C.3
    6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. Include groups with up to ten objects. K.CC.C.6
    7. Compare two numbers between 1 and 10 presented as written numerals. K.CC.C.7

## Algebraic Reasoning

### Operations and Algebraic Thinking

1. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. AR.C.1
    1. Represent addition and subtraction with objects, fingers, mental images, drawings sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. K.OA.A.1
    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.A.2
    3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). K.OA.A.3
    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. K.OA.A.4
    5. Fluently add and subtract within 5 including zero. K.OA.A.5

## Geometric Reasoning

### Geometry

1. Identify, describe, analyze, compare, create, and compose shapes based on their attributes. GR.C.1
    1. Describe objects in the environment using names of shapes and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. K.G.A.1
    2. Correctly name shapes regardless of their orientations or overall size. K.G.A.2
    3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). K.G.A.3
    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). K.G.B.4
    5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. K.G.B.5
    6. Compose simple shapes to form larger shapes. K.G.B.6

**Statistical Reasoning**

**Measurement & Data**

1. Describe and compare measurable attributes. SR.C.1
    1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. K.MD.A.1
    2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute and describe the difference. K.MD.A.2
    3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.) K.MD.B.3