Arizona Mathematics

Grade K

Adopted 2016

Counting and Cardinality

A. Know number names and the count sequence. K.CC.A

1. Count to 100 by ones and by tens. K.CC.A.1
2. Count forward from a given number other than one, within the known sequence (e.g., "Starting at the number 5, count up to 11."). K.CC.A.2
3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0 to 20 (with 0 representing a count of no objects). K.CC.A.3

B. Count to tell the number of objects. K.CC.B

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 (one to one correspondence). 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 (cardinality). K.CC.B.4.B
   c. Understand that each successive number name refers to a quantity that is one larger (hierarchical inclusion). K.CC.B.4.C
5. Count to answer questions about "How many?" when 20 or fewer objects are 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 to 20, count out that many objects. K.CC.B.5

C. Compare numbers. K.CC.C

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. (Include groups with up to ten objects.) K.CC.C.6
7. Compare two numbers between 0 and 10 presented as written numerals. K.CC.C.7

Operations and Algebraic Thinking

A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. K.OA.A

1. Represent addition and subtraction concretely. K.OA.A.1
2. Solve addition and subtraction word problems and add and subtract within 10. K.OA.A.2
3. Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., using fingers, objects, symbols, tally marks, drawings, expressions). 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., using fingers, objects, symbols, tally marks, drawings, or equation). K.OA.A.4
5. Fluently add and subtract within 5. K.OA.A.5

Number and Operations in Base Ten

A. Work with numbers 11 to 19 to gain foundations for place value. K.NBT.A

1. Compose and decompose numbers from 11 to 19 into ten ones and additional ones by using objects, drawings and/or equations. Understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones (e.g., 18 = 10 + 8). K.NBT.A.1

B. Use place value understanding and properties of operations to add and subtract. K.NBT.B

2. Demonstrate understanding of addition and subtraction within 10 using place value. K.NBT.B.2

Measurement and Data

A. Describe and compare measurable attributes. K.MD.A

1. Describe measurable attributes of a single object (e.g., length and weight). K.MD.A.1
2. Directly compare two objects with a measurable attribute in common to see which object has "more of" or "less of" the attribute, and describe the difference (e.g., directly compare the length of 10 cubes to a pencil and describe one as longer or shorter). K.MD.A.2

B. Classify objects and count the number of objects in each category. K.MD.B

3. Classify objects into given categories; count the number in each category and sort the categories by count. (Note: limit category counts to be less than or equal to 10.) K.MD.B.3

Geometry

A. Identify and describe shapes. K.G.A

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 orientation or overall size (e.g., circle, triangle, square, rectangle, rhombus, trapezoid, hexagon, cube, cone, cylinder, sphere). K.G.A.2
3. Identify shapes as two-dimensional (lying in a plane, flat) or three-dimensional (solid). K.G.A.3

B. Analyze, compare, create, and compose shapes. K.G.B

4. Analyze and compare two-dimensional 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., use sticks and clay balls) and drawing shapes. K.G.B.5
6. Use simple shapes to form composite shapes. K.G.B.6

Standards for Mathematical Practice

1. **Make sense of problems and persevere in solving them.** K.MP.1
2. **Reason abstractly and quantitatively.** K.MP.2
3. **Construct viable arguments and critique the reasoning of others.** K.MP.3
4. **Model with mathematics.** K.MP.4
5. **Use appropriate tools strategically.** K.MP.5
6. **Attend to precision.** K.MP.6
7. **Look for and make use of structure.** K.MP.7
8. **Look for and express regularity in repeated reasoning.** K.MP.8