Iowa Mathematics

Kindergarten

Counting and Cardinality K.CC

1 **Know number names and the count sequence forward.** K.CC.A

1 Count to 100 by ones and by tens. K.CC.A.1

2 Count forward beginning from any given number within the range of 0–100. K.CC.A.2

3 Write numbers from 0 to 20. Given a set of 0–20 objects, write a numeral to represent the quantity. K.CC.A.3

2 **Know number names and the count sequence backward.** K.CC.IA.A

1 Count backwards by ones from 20 to 0. K.CC.IA.A.1

2 Count backwards beginning from any given number within the range of 0–20. K.CC.IA.A.2

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

1 Demonstrate awareness of the principles of counting. K.CC.B.4

a Number names must be said in the standard order (sequencing). K.CC.B.4.A

b Each object must be paired 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.B

c The last number name said tells the number of objects counted, objects may be counted in any order (cardinality). K.CC.B.4.C

d The number of objects is the same regardless of their arrangement or the order in which they were counted (conservation of number). K.CC.B.4.D

e Each successive number name refers to a quantity that is one larger. K.CC.B.4.E

2 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 Quickly recognize and name the quantity of up to 5 objects briefly shown in structured or unstructured arrangements without counting (perceptual subitizing). K.CC.IA.B.1

4 **Compare numbers.** K.CC.C

1 Determine whether the number of objects in one group of 1– 10 objects is greater than, less than, or equal to the number of objects in another group of 1–10 objects. For example, using matching and counting strategies. K.CC.C.6

2 Compare two numbers between 1 and 10 presented as written numerals. K.CC.C.7

Operations and Algebraic Thinking: K.OA

1 **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 situations in a variety of ways. For example, with objects, fingers, mental images, drawings, sounds (claps), acting out situations, verbal explanations, expressions, or equations. K.OA.A.1

2 Add and subtract within 10 and solve word problems involving the different problem types listed below. For example, by using objects or drawings to represent the problem. K.OA.A.2

a Add-to with result unknown. K.OA.A.2.A

b Take-from with result unknown. K.OA.A.2.B

c Put-together/take-apart with total unknown. K.OA.A.2.C

d Put-together with both addends unknown. K.OA.A.2.D

3 Decompose numbers less than or equal to 10 in more than one way. For example, by using objects or drawings, and record each decomposition by a drawing or equation, as in 5 = 2 + 3, 5 = 4 + 1, and 5 = 2 + 2 + 1. K.OA.A.3

4 For any number from 1 to 9, find the number that makes 10 when added to the given numbers 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 using efficient mental strategies. K.OA.A.5

a Counting on. K.OA.A.5.A

b Counting back. K.OA.A.5.B

c Using the relationship between addition and subtraction. K.OA.A.5.C

d Creating equivalent, but easier or known sums. K.OA.A.5.D

By the end of kindergarten, flexibly, efficiently and accurately find all sums within 5. Note: Fluency of this standard is critical by the end of grade level.

Number and Operations in Base Ten K.NBT

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

1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, by using objects or drawings, and record each composition or decomposition by a drawing or equation. For example, 18 = 10 + 8; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. K.NBT.A.1

Measurement and Data K.MD

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

1. Describe several measurable attributes (for example, length, width, weight) of objects by using words such as short, long, small, big, heavy, light. 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. For example, directly compare the heights of two children and describe one child as taller/shorter. K.MD.A.2

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

1. 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

3 Identify attributes and values of money. K.MD.IA.B

1. Identify the penny and know the value is one cent. Count pennies up to 20. K.MD.IA.B.1

Geometry K.G

1 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 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, besides, 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

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

1. Analyze and compare two- and three-dimensional shapes, in varied sizes and orientations, using informal language to describe their similarities, differences, parts and other attributes. For example, number of sides and vertices/corners and having sides of equal length. K.G.B.4
2. Model shapes in the world by building shapes from components and drawing shapes. For example, sticks and clay balls. K.G.B.5
3. Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?" K.G.B.6