

**DIOCESE OF DES MOINES
MATH STANDARDS**

GRADE – KINDERGARTEN

COUNTING AND CARDINALITY: A student will be able to:

1. Know number names and the count sequence
2. Count to tell the number of objects
3. Compare numbers

A kindergarten student will:

1. Know number names and the count sequence
 - a. Count to 100 by ones and by tens.
 - b. Count forward beginning from a given number with the known sequence (instead of beginning at 1).
 - c. Write numbers from 0-20. Represent a number of objects with a written number 0-20.
2. Count to tell the number of objects
 - a. Understand the relationship between numbers and quantities; connect counting to cardinality.
 - When counting objects, say the number names in the standard order, pairing each object with the number name.
 - Understand that the last number name said tells the number of object counted and that the number of objects counted is the same regardless of the arrangement of objects.
 - Understand that each successive number name refers to a quantity that is one larger.
 - b. Count to answer “how many?” questions about as many as 20 things arranged in a line, rectangular array, or a circle or as many as 10 things in a scattered configuration; given a number from 0-20, count out that many objects.
3. Compare numbers
 - a. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group.
 - b. Compare two numbers between 1 and 10 presented as written numerals.

OPERATIONS AND ALGEBRAIC THINKING: A student will be able to:

1. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

A kindergarten student will:

1. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
 - a. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.
 - b. Solve addition and subtraction word problems, and add and subtract within 10 (e.g., *using objects or drawings to represent the problem*).
 - c. Decompose numbers less than or equal to 10 into pairs in more than one way (e.g., *using objects or drawings and record each decomposition by drawing $5=4+1$ and $5=2+3$*).
 - d. For any number, 1 through 9, find the number that makes 10 when added to the given number.
 - e. Fluently add and subtract within 5.

NUMBER AND OPERATIONS IN BASE TEN: A student will be able to:

1. Work with numbers 11-19 to gain foundations for place value.

A kindergarten student will:

1. Work with numbers 11-19 to gain foundations for place value.
 - a. Compose and decompose numbers from 11-19 into ten ones and some further ones by using objects or drawings to understand that $18=10+8$, which is ten ones and eight more ones.

MEASUREMENT AND DATA: A student will be able to:

1. Describe and compare measurable attributes.
2. Classify objects and count the number of objects in each category.

A kindergarten student will:

1. Describe and compare measurable attributes.
 - a. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
 - b. Directly compare two objects with a measurable attribute in common to which has “more of”/ “less of” the attribute and describe the difference.
2. Classify objects and count the number of objects in each category.
 - a. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

GEOMETRY: A student will be able to:

1. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
2. Analyze, compare, create, and compose shapes.

A kindergarten student will:

1. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
 - a. 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*.
 - b. Correctly name shapes regardless of their orientations or overall size.
 - c. Identify shapes as two-dimensional (flat) or three-dimensional (solid).
2. Analyze, compare, create, and compose shapes.
 - a. Analyze and compare two- and three-dimensional shapes in different sizes and orientation and describe their similarities, differences, parts, and other attributes.
 - b. Model shapes in the world by building components and drawing shapes.
 - c. Compose simple shapes to form larger shapes (e.g., *two triangles together to make one rectangle*).