Prekindergarten to Kindergarten

NYS Common Core Mathematics Standards Alignment

Counting and Cardinality (CC)

Prekindergartners:	Kindergartners:
Know number names and the count sequence.	
1. Count to 20.	1. Count to 100 by ones and by tens.
	2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
2. Represent a number of objects with a written numeral 0–5 (with 0 representing a count of no objects).	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).
Count to tell the number of objects.	

3. Understand the relationship between numbers and quantities to 10; connect counting to cardinality.
    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.
    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.
    c. Understand that each successive number name refers to a quantity that is one larger.
	4. Understand the relationship between numbers and quantities; connect counting to cardinality.
	    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.
	    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.
	    c. Understand that each successive number name refers to a quantity that is one larger.
	    d. Develop understanding of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers.

4. Count to answer "how many?" questions about as many as 10 things arranged in a line, a rectangular array, or a circle, or as many as 5 things in a scattered configuration; given a number from 1–10, count out that many objects.	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.
Compare numbers.	
5. Identify whether the number of objects in one group is more, less, greater than, fewer, and/or equal to the number of objects in another group (e.g., by using matching and counting strategies) with up to 5 objects.	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) with up to 10 objects.
6. Identify "first" and "last" related to order or position.	7. Compare two numbers between 1 and 10 presented as written numerals.

Operations & Algebraic Thinking (OA)

Prekindergartners:	Kindergartners:
Understand addition as adding to, and understand subtraction as taking from.	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
1. Demonstrate an understanding of addition and subtraction by using objects, fingers, and responding to practical situations (e.g., If we have 3 apples and add two more, how many apples do we have all together?).	1. Represent addition and subtraction with objects, fingers, mental images, drawings*, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
	2. Solve addition and subtraction word problems, and add and subtract within 10 (e.g., by using objects or drawings to represent the problem).
	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 $5 = 4 + 1$)).
	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).
	5. Fluently add and subtract within 5.
Understand simple patterns.	
2. Duplicate and extend (e.g., What comes next?) simple patterns using concrete objects.	

*Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.)

Number & Operations in Base Ten (NBT)

Prekindergartners:	Kindergartners:
Work with numbers 11-19 to gain foundations for place value.	
1. Not applicable to prekindergarten	1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones (e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as $18 = 10 + 8$)); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Measurement & Data (MD)

Prekindergartners:	Kindergartners:
Describe and compare measurable attributes.	
1. Identify measurable attributes of objects, such as length, and weight. Describe them using correct vocabulary (e.g., small, big, short, tall, empty, full, heavy, and light).	1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
	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.*
Sort objects and count the number of objects in each category.	Classify objects and count the number of objects in each category.
2. Sort objects into categories; count the numbers of objects in each category (limit category counts to be less than or equal to 10).	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).

Geometry (G)

Prekindergartners:	Kindergartners:
Identify and describe shapes (squares, circles, triangles, rectangles).	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as top, bottom, up, down, in front of, behind, over, under, and next to.	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.
2. Correctly name shapes regardless of size.	2. Correctly name shapes regardless of their orientations or overall size.
	3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
Analyze, compare, and sort objects.	Analyze, compare, create, and compose shapes.
3. Analyze, compare, and sort two- and three-dimensional shapes and objects, in different sizes, using informal language to describe their similarities, differences, and other attributes (e.g., color, size, and shape).	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).
4. Create and build shapes from components (e.g., sticks and clay balls).	5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
	6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*