			New York State P-12 Learning Standards for Mathematics (Revised 2017)
			Kindergarten
			Counting and Cardinality
		Standard Code	**Standard**	**Additional Clarification/Examples**

Clusters	A. Know number names and the count sequence.	K.CC.A.1	1. Count to 100 by ones and by tens.	
		K.CC.A.2	2. Count to 100 by ones beginning from any given number (instead of beginning at 1).	
		K.CC.A.3	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).	
	B. Count to tell the number of objects.	K.CC.B.4	4. Understand the relationship between numbers and quantities up to and including 20; connect counting to cardinality.	
		K.CC.B.4a	4a. 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. (1:1 correspondence)	

		New York State P-12 Learning Standards for Mathematics (Revised 2017)		
		Kindergarten **Counting and Cardinality**		
		Standard Code	**Standard**	**Additional Clarification/Examples**
Clusters	**B. Count to tell the number of objects.**	K.CC.B.4b	4b. Understand that the last number name said tells the number of objects counted, (cardinality). The number of objects is the same regardless of their arrangement or the order in which they were counted.	
		K.CC.B.4c	4c. Understand the concept that each successive number name refers to a quantity that is one larger.	
		K.CC.B.4d	4d. Understand the concept of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers.	
		K.CC.B.5	5a. Answer counting questions using as many as 20 objects arranged in a line, a rectangular array, and a circle. Answer counting questions using as many as 10 objects in a scattered configuration.	e.g., "How many _____ are there?"
			5b. Given a number from 1–20, count out that many objects.	
	C. Compare numbers.	K.CC.C.6	6. Identify whether the number of objects in one group is greater than (more than), less than (fewer than), or equal to (the same as) the number of objects in another group. Note: Include groups with up to ten objects.	e.g., using matching and counting strategies.
		K.CC.C.7	7. Compare two numbers between 1 and 10 presented as written numerals.	e.g., 6 is greater than 2.

		New York State P-12 Learning Standards for Mathematics (Revised 2017)	

Kindergarten
Operations & Algebraic Thinking

		Standard Code	**Standard**	**Additional Clarification/Examples**
Clusters	**A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.**	K.OA.A.1	1. Represent addition and subtraction using objects, fingers, pennies, drawings, sounds, acting out situations, verbal explanations, expressions, equations or other strategies.	<u>Note</u>: Drawings need not show details, but should show the mathematics in the problem.
		K.OA.A.2	2a. Add and subtract within 10. 2b. Solve addition and subtraction word problems within 10.	e.g., using objects or drawings to represent the problem. In the chart below, *the four unshaded (white) subtypes are expectations in Kindergarten.* Grade 1 and 2 students work with all subtypes. Darker shading indicates the four difficult subtypes that students should work with in Grade 1 but need not master until Grade 2. |	**Result Unknown**	**Change Unknown**	**Start Unknown**
---	---	---	---
Add To	A bunnies sat on the grass. B more bunnies hopped there. How many bunnies are on the grass now? $A + B = \Box$	A bunnies were on the grass. Some more bunnies hopped there. Then there were C bunnies. How many bunnies hopped over to the first A bunnies? $A + \Box = C$	Some bunnies were sitting on the grass. B more bunnies hopped there. Then there were C bunnies. How many bunnies were on the grass before? $\Box + B = C$
Take From	C apples were on the table. I ate B apples. How many apples are on the table now? $C - B = \Box$	C apples were on the table. I ate some apples. Then there were A apples. How many apples did I eat? $C - \Box = A$	Some apples were on the table. I ate B apples. Then there were A apples. How many apples were on the table before? $\Box - B = A$ | |	**Total Unknown**	**Both Addends Unknown**	**Addend Unknown**
---	---	---	---
Put Together/ Take Apart	A red apples and B green apples are on the table. How many apples are on the table? $A + B = \Box$	Grandma has C flowers. How many can she put in her red vase and how many in her blue vase? $C = \Box + \Box$	C apples are on the table. A are red and the rest are green. How many apples are green? $A + \Box = C$ $C - A = \Box$ | |	**Difference Unknown**	**Bigger Unknown**	**Smaller Unknown**
---	---	---	---
Compare	"How many more?" version: Lucy has A apples. Julie has C apples. How many more apples does Julie have than Lucy? "How many fewer?" version: Lucy has A apples. Julie has C apples. How many fewer apples does Lucy have than Julie? $A + \Box = C$ $C - A = \Box$	*Version with "More":* Julie has B more apples than Lucy. Lucy has A apples. How many apples does Julie have? *Version with "Fewer":* Lucy has B fewer apples than Julie. Lucy has A apples. How many apples does Julie have? $A + B = \Box$	*Version with "More":* Julie has B more apples than Lucy. Julie has C apples. How many apples does Lucy have? *Version with "Fewer":* Lucy has B fewer apples than Julie. Julie has C apples. How many apples does Lucy have? $C - B = \Box$ $\Box + B = C$	

Clusters					
		K.OA.A.3	3. Decompose numbers less than or equal to 10 into pairs in more than one way. Record each decomposition by a drawing or equation.	e.g., using objects or drawings. e.g., 5 = 2 + 3 and 5 = 4 + 1, or 5 / 2 \ 3	
	A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.	K.OA.A.4	4. Find the number that makes 10 when given a number from 1 to 9. Record the answer with a drawing or equation.	e.g., using objects or drawings.	
		K.OA.A.5	5. Fluently add and subtract within 5.	Note: Fluency involves a mixture of just knowing some answers, knowing some answers from patterns, and knowing some answers from the use of strategies.	
	B. Understand simple patterns.	K.OA.B.6	6. Duplicate, extend, and create simple patterns using concrete objects.		

				New York State P-12 Learning Standards for Mathematics (Revised 2017)
				Kindergarten **Number & Operations in Base Ten**
Clusters		**Standard Code**	**Standard**	**Additional Clarification/Examples**
	A. Work with numbers 11-19 to gain foundations for place value.	K.NBT. A.1	1. Compose and decompose the numbers from 11 to 19 into ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	e.g., using objects or drawings.

	New York State P-12 Learning Standards for Mathematics (Revised 2017)		
	Kindergarten **Measurement & Data**		
	Standard Code	**Standard**	**Additional Clarification/Examples**
Clusters — **A.** Describe and compare measurable attributes.	K.MD.A.1	1. Describe measurable attributes of an object(s), such as length or weight, using appropriate vocabulary.	e.g., small, big, short, tall, empty, full, heavy, and light.
	K.MD.A.2	2. Directly compare two objects with a common measurable attribute and describe the difference.	
B. Classify objects and count the number of objects in each category.	K.MD.B.3	3. Classify objects into given categories; count the objects in each category and sort the categories by count. Note: Limit category counts to be less than or equal to 10.	
	K.MD.B.4	4. Explore coins (pennies, nickels, dimes, and quarters) and begin identifying pennies and dimes.	

		New York State P-12 Learning Standards for Mathematics (Revised 2017)		
		Kindergarten **Geometry**		
		Standard Code	**Standard**	**Additional Clarification/Examples**
Clusters	A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).	K.G.A.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.2	2. Name shapes regardless of their orientation or overall size.	
		K.G.A.3	3. Understand the difference between two-dimensional (lying in a plane, "flat") and three-dimensional ("solid") shapes.	

	New York State P-12 Learning Standards for Mathematics (Revised 2017)		
	Kindergarten **Geometry**		
	Standard Code	Standard	Additional Clarification/Examples
Clusters · B. Analyze, compare, and compose shapes.	K.G.B.4	4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts, and other attributes.	e.g., number of sides and vertices/"corners", or having sides of equal length.
	K.G.B.5	5. Model objects in their environment by building and/or drawing shapes.	e.g., using blocks to build a simple representation in the classroom. Note on and/or: Students should be taught to model objects by building *and* drawing shapes; however, when answering a question, students can choose to model the object by building *or* drawing the shape.
	K.G.B.6	6. Compose larger shapes from simple shapes.	e.g., join two triangles to make a rectangle.