Counting and Cardinality
Kindergarten
Know number names and the counting sequence. K.CC.1 Use concrete and pictoral representations to count up to 10 items by ones. **Count to tell the number of objects** K.CC.4 Demonstrates one to one correspondence by pairing one object with one and only one number and each name with only one object. K.CC.5 Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many **Compare numbers** K.CC.6 Identify whether the number of objects in one group is more than, less than, or equal to the number of objects in another group, when the quantities are clearly different.

Operations and algebraic thinking					
K	1	2	3	4	5
Understand addition and subtraction. K.OA.1 Represent addition as putting together, and subtraction as taking away in everyday activities.	**Represent and solve problems.** 1.OA.1 Represent addition and subtraction with objects, fingers, drawings, or sounds (e.g., claps) within 10 **Add and subtract within 20.** 1.OA.6 Use manipulatives or visual representations to indicate the number that results when adding "one more" or subtracting "one less". **Analyze addition and subtraction equations within 20.** 1.OA.7 Recognize two groups that have the same or equal quantity.	**Work with equal groups.** NC.2.OA.3 Equally distribute even numbers of objects (up to 20) between two groups. NC.2.OA.4 Use addition to find the total number of objects arranged within equal groups up to a total of 20.	**Represent and solve problems involving multiplication and division.** NC.3.OA.1 Use repeated addition, bar models, and arrays to find a total product when there are repeated equal groups **Explore patterns of numbers** NC.3.OA.9 Identify arithmetic patterns.	**Represent and solve problems involving multiplication and division.** NC.4.OA.1 Demonstrate the connection between repeated addition and multiplication. (2*3= 2+2+2). NC.4.OA.3 Solve one step word problem using addition or subtraction within 20. **Gain familiarity with factors and multiples.** NC.4.OA.4 Show one way to arrive at a product. **Explore patterns of numbers.** NC.4.OA.5 Use repeating patterns to make predictions.	**Understand the properties of multiplication.** NC.5.OA.3 Identify and extend numerical patterns**.**

Number and Operations in Base 10					
K	1	2	3	4	5
	Extend and recognize patterns in the counting sequence. NC.1.NBT.1 Use concrete and pictoral representations to count up to 20 items by ones. NC.1.NBT.7 Count as many as 10 objects and represent the quantity with the corresponding numeral. **Understand place value.** NC.1.NBT.2 Create sets up to 10. NC.1.NBT.3 Compare two groups of 10 or fewer items when the number of items in each group is similar. Use place value understanding and properties of operations. NC.1.NBT.4 Compose numbers less than or equal to	**Understand place value.** NC.2.NBT.1 Represent numbers up to 30 with sets of tens and ones using objects in columns or arrays. NC.2.NBT.2 Use concrete and pictoral representations to count up to 30 items by ones. NC.2.NBT.3 Count sets (1 to 30) of concrete and pictoral representations, then identify the corresponding numeral. NC.2.NBT.4 Compare sets of numbers or objects to determine greater than, less than, or equal. **Use place value understanding and properties of operations.** NC.2.NBT.5	**Use place value to add and subtract.** NC.3.NBT.2 Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0–30. **Generalize place value understanding for multi-digit numbers.** NC.3.NBT.3 Count by tens using models such as objects, base ten blocks, ten-frames, or money.	**Generalize place value understanding for multi-digit whole numbers.** NC.4.NBT.2 Use concrete and pictoral representations to count up to 100 items. NC.4.NBT.7 Round any whole number 0-30 to the nearest ten. **Use place value understanding and properties of operations to perform multi-digit arithmetic.** NC.4.NBT.4 Add and subtract two-digit whole numbers	**Generalize place value understanding for multi-digit numbers**. NC.5.NBT.1 Identify equivalent groupings for quantities up to 99. **Generalize place value understanding for multi-digit numbers.** NC.5.NBT.3 Compare whole numbers up to 100 using symbols (<, >, =). **Compute with multi-digit whole numbers and decimal numbers.** NC.5.NBT.5 Multiply whole numbers up to 5 × 5. NC.5.NBT.6 Use fair and equal shares to solve division problems.

	five in more than one way. NC.1.NBT.6 Decompose numbers less than or equal to five in more than one way.	Model the meaning of the symbols for addition (+) and subtraction (-) by using manipulatives to compose and decompose numbers up to 20. NC.2.NBT.6 Identify how many tens and ones are in numbers up to 30. NC.2.NBT.7 Use objects, representations, and numbers (0–20) to add and subtract.			

Numbers and Operations – Fractions					
K	1	2	3	4	5
			Understand fractions as numbers. NC.3.NF.1 Differentiate a fractional part from a whole.	**Extend understanding of fractions.** NC.4.NF.1 Identify models of one half (1/2) and one fourth (1/4).	**Add and subtract fractions.** NC.5.NF.1 Identify models of halves (1/2, 2/2), fourths (1/4, 2/4, 3/4, 4/4), thirds (1/3. 2/3, 3/3), and tenths (1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10).

Measurement and Data					
K	1	2	3	4	5
Describe and compare measurable attributes. K.MD.1 Classify objects by attributes, (long, short, heavy, light, big, small).	**Measure lengths.** NC.1.MD.1 Compare lengths to determine which is longer, shorter, taller, and shorter. **Build understanding of time and money**. NC.1.MD.3 Identify tomorrow, yesterday, today morning, afternoon, day, night and activities that come before, next, and after. **Represent and interpret data.** NC.1.MD.4 Organize data into categories by sorting.	**Measure and estimate lengths.** NC.2.MD.1 Measure the length of objects using non-standard units. NC.2.MD.3 Order by length using non-standard units. **Relate addition and subtraction to length.** NC.2.MD.5 Increase or decrease length by adding or subtracting units. NC.2.MD.6 Use a number line to add one more unit of length. **Build understanding of time and money.** NC.2.MD.7 Identify on a digital clock the hour that matches a routine activity. NC.2.MD.8 Recognize that money has value.	**Solve problems involving measurement.** NC.3.MD.1 Tell time to the hour on a digital clock. NC.3.MD.2 Measure the length of objects using standard units. **Represent and interpret data.** NC.3.MD.3 Use picture or bar graph data to answer questions about data. **Understand the concept of perimeter.** NC.3.MD.8 Recognize that perimeter is the distance around a shape.	**Solve problems involving measurement.** NC.4.MD.1 Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour). NC.4.MD.3 Determine the area of a square or rectangle by counting units of measure (unit squares). NC.4.MD.4 Interpret data from a picture or bar graph. **Understand angles.** NC.4.MD.6 Identify angles in geometric shapes.	**Convert like measurement units within a given measurement system.** NC.5MD.1 Use standard units to measure weight and length of objects. **Represent and interpret data.** NC.5.MD.2 Represent and interpret data on a picture, line plot, or bar graph. **Understand concepts of volume.** NC.5.MD.5 Determine the volume of a rectangular prism by counting units of measure (unit cubes).

		Represent and interpret data. NC.2.MD.10 Create picture graphs from collected measurement data.			

Geometry					
K	1	2	3	4	5
Identify and describe shapes. K.G.2 Identify shapes of same size and orientation (circle, square, rectangle, triangle).	**Reason with shapes and their attributes.** NC.1. G.1 Identify common two-dimensional shapes: square, circle, triangle, and rectangle. NC.1. G.2 Sort shapes of same size and orientation (circle, square, rectangle, triangle). NC.1. G.3 Put together two pieces to make a shape that relates to the whole	**Reason with shapes and their attributes.** NC.2. G.1 Indicate the names of shapes (circle, square, rectangle, and triangle). NC.2. G.3 Use manipulatives to partition shapes into equal parts.	**Reason with shapes and their attributes.** NC.3. G.1 Identify the attributes of two-dimensional shapes (circle, square, rectangle, triangle, oval, rhombus).	**Classify shapes based on lines and angles in two-dimensional figures.** NC.4. G.1 Recognize parallel lines and intersecting lines. NC.4. G.2 Describe the attributes of two-dimensional shapes NC.4. G.3 Use lines of symmetry to partition shapes into equal areas.	**Understand the coordinate plane.** NC.5. G.1 Use the x and y axis to locate a point or object on a graph. **Classify two-dimensional figures into categories based on their properties.** NC.5. G.3 Sort two-dimensional figures and identify the attributes (angles, number of sides, corners) they have in common.