Math Common Core Curriculum – Kindergarten

ESSENTIAL QUESTIONS	DOMAINS AND CLUSTERS	KINDERGARTEN SKILL	VOCABULARY	MATHEMATICAL PRACTICES & RESOURCES	ASSESSMENT
What are numbers? What is counting and how can it be used?	***Counting and Cardinality K.CC*** Know number names and count sequence Count to tell the number of objects Understand the relationship between numbers and quantities; connect counting to cardinality Count to tell the number of objects.	❑ Verbally count to 100 by ones. K.CC.1 ❑ Verbally count to 100 by tens. K.CC.1 ❑ Count on, in sequence from any given number, up to 100. K.CC.2 ❑ Write the numeral 0 to 20 in sequential order K.CC.3 ❑ Read numerals 0-20 K.CC.3 ❑ Write numerals to represent a collection up to 20 K.CC.3 ❑ Count by ones to 20 K.CC.3 ❑ Count a given collection of items up to 20 K.CC.3 ❑ Count a given collection of items up to 20 K.CC.3 ❑ Identify the last number in a set as a quantity up to 20 K.CC.4a ❑ Match number 0-20 with a corresponding set of objects or pictures K.CC.4a ❑ Write a number to represent a collection up to 20 K.CC.4a ❑ Count up to 20 using one to one correspondence K.CC.4a ❑ Identify the last number in a set as a quantity up to 20 K.CC.4b ❑ Match number 0-20 with a corresponding set of objects or pictures K.CC.4b ❑ Write a number to represent a collection up to 20 K.CC.4b ❑ Count up to 20 using one to one correspondence K.CC.4b ❑ Verbally count by ones up to 100 K.CC.4c ❑ Sequence numbers up to 20 K.CC.4c ❑ State the number that comes before, after or between a specified number, up to 100 (with and without a number line) K.CC.4c ❑ Name the number that is one larger or one more when given a starting number K.CC.4c ❑ Explain why one number is larger or smaller than another number K.CC.4c ❑ Name the position of an object using ordinal terms K.CC.4d ❑ Describe a set of objects using ordinal terms K.CC.4d ❑ Count a set of objects and relate that count to the ordinal position K.CC.4d ❑ Count a set of objects up to 20, arranged in a line, rectangular array or circle K.CC.5 ❑ Count a specific number of objects up to 10 in a scattered arrangement, using one to one correspondence K.CC.5 ❑ Count out the number of objects when given a specific number from 1 to 20. K.CC.5 ❑ Name or write the number of objects in a group, by matching the last counted number to the set total (knowing the last number counted represents the number of objects in the group) K.CC.5	▪ Count ▪ Number ▪ Tens ▪ Ones ▪ Next ▪ One more ▪ Numeral ▪ number words (one to twenty) ▪ count ▪ number ▪ ones ▪ tens ▪ number words (one to twenty) ▪ last ▪ match ▪ more ▪ more than ▪ greater ▪ greater than ▪ plus one ▪ Add one ▪ First ▪ Second ▪ Third ▪ Fourth ▪ Fifth ▪ Sixth ▪ Seventh ▪ Eighth ▪ Ninth ▪ Tenth ▪ Ordinal Numbers ▪ How many ▪ Count	**1. Make sense of problems and persevere in solving them** **2. Reason abstractly and quantitatively** **3. Construct viable arguments and critique the reasoning of others** **4. Model with mathematics** **5. Use appropriate tools strategically** **6. Attend to precision** **7. Look for and make use of structure** **8. Look for and express regularity in repeated reasoning** <u>**Resources for Implementation:**</u> • Guessing jar • Math journal books • Question of the day graph	Performance tasks Teacher observation Checklists Drawings/ illustrations

	Compare numbers	❑ Compare two groups of objects using the terms greater than, less than or equal to K.CC.6 ❑ Match up two set of objects by pairing the object from the two sets to compare which set has more or less K.CC.6 ❑ State or write how many more or how many less when comparing sets K.CC.6 ❑ Compare two numerals between 1 and 10 K.CC.7 ❑ State how many more or how many less when comparing numerals K.CC.7 ❑ Write numbers 1 to 10 K.CC.7	▪ Object ▪ Number words 0-20 ▪ Total ▪ In all ▪ Altogether ▪ Greater than ▪ Greater ▪ Less than ▪ Less ▪ Equal to ▪ More ▪ More than ▪ Set ▪ Group ▪ Number	• Centers • Counters, base ten logs • Plane shapes • Solid shapes • Pattern blocks • Tangrams • Sand/water table • Balance scale • Collections of objects e.g. buttons, tiles, blocks, colored clips
What is addition? What is subtraction?	***Operations and Algebraic Thinking K.OA*** Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from	❑ Solve a given single digit addition or subtraction numeric problem using various means, manipulatives, dice, fingers, drawing, number lines, number grids, mental images, acting out, sounds (claps), verbal explanations, up to sums of ten K.OA.1 ❑ Write an equation (number sentence) to match a given addition or subtraction word problem (number story), using the symbols (+), (-) and (=) K.OA.1 ❑ Create a verbal addition or subtraction story or scenario K.OA.1 ❑ Read and write numbers to 10 K.OA.1 ❑ Describe addition in terms of "putting together" K.OA.1 ❑ Describe subtraction in terms of "taking away" K.OA.1 ❑ Read an equation (number sentence), using the term 'plus' for (+), 'minus' for (-) and 'equals' for (=)K.OA.1 ❑ Count items in a collection, up to 10 K.OA.1 ❑ Write a number to represent an amount shown, up to 10 K.OA.1 ❑ Solve a single digit addition or subtraction word problem (number story) as verbally presented, using manipulatives, fingers, mental math or counting on strategy, up to sums of 10 K.OA.2 ❑ Write multiple addition equations (number sentences) for the same sum, up to sums of 10 K.OA.3 ❑ Create multiple addition equations, using manipulatives and/or drawings K.OA.3 ❑ Read an equation (number sentence) using the terms "plus" for (+) and "equals" for (=) K.OA.3 ❑ Manipulate a given set of objects to reach the same sum K.OA.3 ❑ Write/ say the missing addend for a given equation (number sentence), up to sums of 10 K.OA.4 ❑ Show the missing addend, using manipulatives or drawings, for sums up to 10 K.OA.4 ❑ Fluently say the sum or difference of an equation (number sentence) within 5 K.OA.5	▪ Altogether ▪ Equal ▪ Minus ▪ Number ▪ Plus ▪ Subtract ▪ Take away ▪ Equation ▪ Number sentence ▪ Number story ▪ Word problem ▪ In all ▪ Total ▪ Sum ▪ Equation ▪ Number sentence ▪ Addend ▪ Missing number ▪ Add	**Literature:** http://www.mathsolutions.com/documents/lessons_chart-2.pdf http://illuminations.nctm.org/Lessons.aspx http://www.mathsolutions.com/index.cfm?page=wp9&crid=56 www.time-for-time.com/lesson1.htm

		❑ Mentally calculate one more or one less than a given number & two more or two less than a given number K.OA.5 ❑ State the value of set, without counting, within 5 K.OA.5 ❑ Find the missing addend, mentally for sums within 5. K.OA.5		
What is base 10 and how can it be used?	***Number and Operations in Base Ten*** ***K.NBT*** Work with numbers 11-19 to gain foundations for place value	❑ Write an equation (number sentence) to match a given teen number from 11 to 19, using tens and ones. K.NBT.1 ❑ Show the sum of a teen number from 11 to 19, using drawings, objects K.NBT.1 ❑ Say and show how many tens and ones make up a teen number from 11 to 19. K.NBT.1 ❑ Read an equation (number sentence), using the term 'plus' for (+), 'minus' for (-) and 'equals' for (=)K.NBT.1 ❑ Read and write numbers to 20 K.NBT.1 ❑ Describe addition in terms of "putting together" K.NBT.1 ❑ Describe and show a ten as 10 ones K.NBT.1	▪ Altogether ▪ Sum ▪ Ten(s) ▪ One(s) ▪ Place value ▪ Value ▪ Put together ▪ Take apart	
How do we measure things?	***Measurement and Data*** ***K.MD***	❑ Explain how to find a measurable attribute of an object K.MD.1 ❑ Describe the measurable attributes of a object using appropriate terms K.MD.1 ❑ Compare two objects using measurement vocabulary (longer, shorter, heavier, lighter, etc) K.MD.2	▪ Length ▪ Longer than ▪ Heavier ▪ Shorter than ▪ Lighter	
Why do we measure things?	Describe and compare measurable attributes	❑ Describe how to compare the attributes of two objects, as lining them up at the same starting point or weighing them K.MD.2 ❑ Name, discuss and compare attributes of length and weight K.MD.2 ❑ Sort objects as heavier than / lighter than or longer than/ shorter than K.MD.2	▪ Longer ▪ Side ▪ Width ▪ Height ▪ Weight ▪ Measure	
How can objects be classified?	Classify objects and count the number of objects in each category.	❑ Sort objects by a given attribute K.MD.3 ❑ Compare groups of sorted objects by count and display data K.MD.3 ❑ Explain the attributes used when sorting objects K.MD.3 ❑ Sort objects as heavier than/lighter than or longer than/shorter than K.MD.3 ❑ Count the number of objects in a set, up to 20 K.MD.3 ❑ Write the number that match the quantity of a given set K.MD.3	▪ Measurement ▪ Compare ▪ Sort ▪ Classify ▪ Attribute names: colors, sizes and shapes	
What are planes?	***Geometry*** ***K.G*** Identify and describe shapes squares, circles, triangles, rectangles, hexagons, cubes,	❑ Identify shapes (2-Dimensional & 3-Dimensional) by name K.G.1 ❑ Explain the position of a shape in relation to another object K.G.1 ❑ Sort shapes by dimension (2-Dimensional or 3-Dimensional) K.G.1 ❑ Move shapes, based on a oral directive, using positional terms K.G.1 ❑ Describe objects in the environment using the names of shapes K.G.1	▪ Square ▪ Circle ▪ Hexagon ▪ Cone ▪ Sphere	
What are solid		❑ Name a given 2-Dimensional (square, circle, hexagon & triangle) or 3-		

objects?	cones, cylinders and spheres	Dimensional shape (cone, sphere, cube & cylinder), regardless of the orientation or size K.G.2 ❑ Draw a given 2-Dimensional (square, circle, hexagon & triangle) shape, regardless of the orientation or size K.G.2 ❑ Describe 2-Dimensional (square, circle, hexagon & triangle) or 3-Dimensional shape (cone, sphere, cube & cylinder), regardless of the orientation or size K.G.2 ❑ Explain why some shapes are the same and why some are different K.G.2 ❑ Describe 2-Dimensional (square, circle, hexagon & triangle) as "flat" and 3-Dimensional shape as "solid" K.G.3 ❑ Sort 2-Dimensional and 3-Dimensional shapes based on attributes of the shapes K.G.3	▪ Triangle ▪ Rectangle ▪ Cube ▪ Cylinder ▪ Above ▪ Below ▪ Beside ▪ In front of ▪ Behind ▪ Next to ▪ Solid ▪ Flat ▪ Side ▪ Vertices/ vertex		
How are plane and solid objects different? How do you describe a 3-dimensional shape?	 Analyze, compare, create, and compose shapes.	❑ Compare 2-Dimensional shapes to 3-Dimensional shapes, explaining similarities and differences K.G.4 ❑ Explain why some shapes are the same and why some are different, regardless of size or orientation K.G.4 ❑ Describe two or more characteristics of 2-Dimensional and 3-Dimensional shapes in terms of number of sides, side lengths, vertices, etc. K.G.4 ❑ Sort 2-Dimensional and 3-Dimensional shapes based on attributes of the shapes K.G.4 ❑ Describe 3-dimensional shapes using 2-dimensional terminology (ex. A cube is made up of 6 squares) K.G.4 ❑ Create 2-Dimensional) and 3-Dimensional shapes using clay, marshmallows/ toothpicks, drawings, etc. K.G.5 ❑ Identify shapes within a larger shape or figure K.G.6 ❑ Manipulate smaller shapes to create a new larger shape) K.G.6	▪ Solid ▪ Flat ▪ Square ▪ Circle ▪ Hexagon ▪ Cone ▪ Sphere ▪ Triangle ▪ Rectangle ▪ Cube ▪ Cylinder ▪ Side ▪ Length ▪ Vertices/ Vertex		