Mathematics Curriculum Map

Aligned to National Common Core Standards

Counting and Cardinality

Know number names and the count sequence		
		Corresponding Page Numbers:
K.CC.1	Count to 100 by ones and by tens	2,3,6,7,8,9,10,11,12,13,21,23,48,49,50,51,52,66,80,82,83,102,103,104, 105,106,154
K.CC. 2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1)	2,3,8,14,15,16,17,19,20,21,22,23,52,53,80,82,204,275,281
K.CC. 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)	5,7,10,12,13,14,19,20,21,23,24, 25-46,49 50,52,81,103,104,105,106,110, 111,112, 113,114,115,116,117,118,119,120,218,275
Count to tell the number of objects		
K.CC. 4	Understand the relationship between numbers and quantities; connect counting to cardinality	2,3,5,6,7,8,9,10,48,49,52,53,82,83,103,104,105,106,154,155
K.CC. 5	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 1-20 count out that many objects	2,3,6,7,8,9,10,16,48,49,50,51,52,53,180,82,83,102,103,104,105,106, 122,123,124,156
Compare numbers		
K.CC. 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	9,54,55,56,57,58,59,60,61,62,63,83
K.CC. 7	Compare two numbers between 1 and 10 presented as written numerals	9,24,54,58,59,60,61,62,63,83

Operations and Algebraic Thinking		
Understand simple patterns		
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from		
		Corresponding Page Numbers:
K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations	86,87,88,89,90,91,92,94,95,96,97,102,103,10,105,106,107,120122,123, 124,125,126,127,128,135,136,137,138,139,140,141,142, 144,145
K.OA.2	Solve addition and subtraction problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem	7,86,87,88,89,90,91,92,94,95,96,97,102,103,104,105,106,107,120,122, 123,124,125,126,127,135,136,137,138,139,140,141,142,144,145
K.OA.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)	86,143
K.OA.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	92
K.OA.5	Fluently add and subtract within 5	87,88,89,90,91,94,95,96,97,102,103,104,105,106,107,109,110,111,112,113,114,115,116,117,122,130
Represent and solve problems involving addition and subtraction		
1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem	71,86,88,89,90,91,92,94,95,96,97,109,110,111,112,113,114,115,116,117, 118,119,120,128,134,135,136,137,138,139,140,141,142,146,236

		Corresponding Page Numbers:
1.OA.2	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem	86,100,121,134,135,136,137,138,139,140,141,142,146
Understand and apply properties of operations and the relationship between addition and subtraction		
1.OA.3	Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*	86,88,89,90,91,92,94,95,102,103,104,105,106,107,108,109,110,111, 112,113,114,115,116,117,118,119,120,130,131,132,133,135,136,137, 138, 139,144,145,16
1.OA.4	Understand subtraction as an uknown-addend problem. *For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.*	120
Add and subtract within 20		
1.OA.5	Relate counting to addition and subtraction (e.g., by counting on 2 to add 2)	86,96,120,122,123,124,125,126,127,128,129,135,136,137,138,139,140, 141,142
1.OA.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 +2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 + 13 = 13 - 3 - 1 = 10 - 1 = 9); using the relationships between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13)	86,87,88,89,90,91,92,94,95,102,103,104,105,106,107,108,109,110,111, 112,113,114,115,116,117,118,119,120,124,125,126,127,128,129,130,131, 132,133,135,136,137,138,139,140,141,142,143,144,145,146

Work with addition and subtraction equations		
		Corresponding Page Numbers:
1.OA.7	Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. *For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 +2.*	86,87,88,89,90,91,92,94,95,103,104,105,106,107,109,110,111,112,113, 114,115,116,117,118,119,120,122,123,125,126,127,128,129,130,131, 132,133,144,145
1.OA.8	Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = ? - 3, 6 + 6 = ?.*	86,87,88,89,90,91,92,94,95,111,112,113,114,115,116,117,118,119,120
Number and Operations in Base Ten		
Work with numbers 11-19 to gain foundations for place value		
K.NBT.1	Compose and decompose numbers from 11 to 19 into tens and ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones	48,49,50,51,52,53
Extend the counting sequence		
1.NBT.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral	4,52,53

Understand place value		
		Corresponding Page Numbers:
1.NBT.2	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: a. 10 can be thought of as a bundle of ten ones--called a "ten" b. the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones c. the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)	
1.NBT.3	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the <, >, and =.	62,63,64,65,66,67,152,357
Use place value understanding and properties of operations to add and subtract		
1.NBT.4	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten	109,110
1.NBT.5	Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used	21,22,23

		Corresponding Page Numbers:
1.NBT.6	Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used	
Measurement and Data		
Sort objects and count the number of objects in each category		
Describe and compare measurable attributes		
K.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object	184,296,297,298,300,301,302,303,304,305,306,312,313,315,316,317,319,326,327,329
K.MD.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.*	255,296,297,300,301,308,309,310,311,315,316,317,318,320,321,322,325,333
Classify objects and count the number of objects in categories		
K.MD.3	Classify objects into given categories: count the numbers of objects in each category and sort the categories by count	183,184,190,191,192,193,194,195,196
Measure lengths indirectly and by iterating length units		
1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object	255,296,297

		Corresponding Page Numbers:
1.MD.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps*	255,274,296,297,300,301,304,305,306,312,313,319
Tell and write time		
1.MD.3	Tell and write time in hours and half-hours using analog and digital clocks	255,256,257,258,259,261,273,276,277,278,279,280,282,283,284,285, 286,331
Represent and interpret data		
1.MD.4	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another	148,149,150,152,154,155,156,157,158,159,160,161,162,163,164,165,166, 167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,183,206
Geometry		
Analyze, compare, and sort objects		
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)		
K.G.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*	209,210,211,249

		Corresponding Page Numbers:
K.G.2	Correctly name shapes regardless of their orientations or overall size	209,212,215,216,218,222,250,251
K.G.3	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid")	209,222
Analyze, compare, create, and compose shapes		
K.G.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)	209,212,216,217,219,220,221,252
K.G.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes	209,212,214,221
	K.G.6: Compose simple shapes to form larger shapes.	209,212,213,221
Reason with shapes and their attributes		
1.G.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes	209,212,214,216,217,218,219,220,221,224,225,226,227,228,229,230,252
1.G.2	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape	209,212,213,221,223,224,225,226,227,228,229,230

		Corresponding Page Numbers:
1.G.3	Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves, fourths,* and *quarters*, and use the phrases *half of, fourth of,* and *quarter of.* Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares	209,231,232,233,234,236,238,239,240,241,242,243,244,245,246,247, 248,253
Money		
2.MD. C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?	335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,351,352, 353,354,355,356,357,358,359,360,361,362,363,364,365,366,367
Extra Curriculum		
Algebra Standards		
		197,198,199,200,201,202,203,204,205,207
Calendar Standards		
	Days, Weeks, Months	287,288,289,291,292,293,294,295,330,332
Seasons/Heat		
		297,298,324,325,326,327,328,332

Kindergarten Math CC Assessment Tasks

All of the Kindergarten pre and post assessment tasks are designed to be completed one-on-one as individual interviews with each student. Diagnostic observational notes and individual records should be kept before, during, and after implantations of the project. Digital online assessments are also available via ESGI. Call us at 678-404-7473 and we will be glad to get you set up!

CC Task 1	
Standard (s)	**K.C.C.1** Count by 100 by ones and tens. **K.CC.2** Count forward beginning from a given number within the known sequence (instead of beginning at 1).
Materials	none
Task	1. Say: Start at 1 and count as far as you can (stop student after 100). 2. Say: Count by 10's as far as you can (stop student after 100). 3. Say: Begin counting with the number 6. I'll tell you when to stop. (Stop student at 10.) Repeat: • Begin at 16. Stop student at 21. • Begin at 43. Stop student at 49. • Begin at 62. Stop student at 72.
CC Task 2	
Standard (s)	**K.C.C.4** Understand the relationship between numbers and quantities; connect counting cardinality. 1. 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. 2. Understand that the last number 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. **K.C.C.5** Count to answer "how many?" questions about as many as 20 things.
Materials	9 objects (e.g., cubes, bears)
Task	1. Say: Start at 1 and cound as far as you can (stop student after 100). 2. Say: Count by 10's as far as you can (stop student after 100). 3. Say: Begin counting with the number 6. I'll tell you when to stop. (Stop student at 10.) Repeat: • Begin at 16. Stop student at 21. • Begin at 43. Stop student at 49. • Begin at 62. Stop student at 72.

CC Task 3	
Standard (s)	**K.C.C.4** Understand the relationship between numbers and quantities; connect counting cardinality. 1. 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. 2. Understand that the last number 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. **K.C.C.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 1-20, count out that many objects.
Materials	18 objects (e.g., cubes, bears)
Task	1. Show the student a collection of 9 objects arranged in a 3-by-3 array. Say: *How many do you think there are?* *Now count to see how many there are. How many are there?* Repeat with 12 objects arranged in a 4-by-3 array. Repeat with 18 objects arranged in a 6-by-3 array. 2. Show the student a collection of 9 objects arranged in a circle. Say: *How many do you think there are?* *Now count to see how many there are. How many are there?* Repeat with (11, 17) objects.
CC Task 4	
Standard (s)	**K.C.C.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.
Materials	7 green cubes, 9 red cubes, 4 green cubes, 4 yellow cubes
Task	1. Give the student a set of 4 green cubes and a set of 4 yellow cubes. Ask: *There are some green cubes in this set and some yellow cubes in this set. How many cubes are there? How many yellow cubes are there?* *Which set has less or is there an equal amount of cubes in each set?* 2. Give the student a set of 7 green cubes and a set of 9 red cubes. Say: *There are some green cubes in this set and some red cubes in this set. How many green cubes are there? How many red cubes are there?* *Which set has less or is there an equal amount of cubes in each set?*

CC Task 5	
Standard (s)	**K.AO.1** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, expressions, or equations. **K.OA.2** Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Add to - Result Unknown
Materials	SF, Manipulatives such as chips/cubes, pencil
Task	Provide materials to student. Read the problem to the student: *Caleb found 4 seashells and put them in a bucket. Caleb found 2 more seashells and put them in the bucket. How many seashells are now in the bucket? Show your thinking with objects, words, pictures or numbers.*
CC Task 6	
Standard (s)	**K.OA.1** Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, expressions, or equations. **K.OA.2** Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. Add to - Result Unknown
Materials	SF, Manipulatives such as chips/cubes, pencil
Task	Provide materials to student. Read the problem to the student: *Tameka has 5 silly bands. She bought 4 more silly bands. How many silly bands does Tameka have now? Show your thinking with objects, words, pictures or numbers.*

CC Task 7	
Standard (s)	**K.NBT.1** Compose and decompose numbers from 11 to 19 into tens, ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing equation (e.g., 18= 10 + 8)*; understand that these numbers are composed of tens, ones and one, two, three, four, five, six, seven, eight, or nine ones. **Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.*
Materials	Ten Frame, 16 counters, paper, pencil
Task	Present student with 14 counters and the ten frame. Say: *I have some counters. How many do you think there might be? Do you think they will fit on the ten frame? Use the ten frame to find out how many counters there are.* After the student has finished, ask: *What did you find out? How do you know? Prompt, if needed: Did you have enough to fill the ten frame? How many did not fit on the ten frame? How many counters are there in all?* Then, ask the student to write the total amount. Repeat with 16 counters.
CC Task 8	
Standard (s)	**K.NBT.1** Compose and decompose numbers from 11 to 19 into tens, ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing equation (e.g., 18= 10 + 8)*; understand that these numbers are composed of tens, ones and one, two, three, four, five, six, seven, eight, or nine ones. **Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.*
Materials	Use Ten Frame from BLM KNBT 1a, 17 counters, paper, pencil
Task	Present student with 15 counters and the ten frame. Say: *I have some counters. How many do you think there might be? Do you think they will fit on the ten frame? Use the ten frame to find out how many counters there are.* After the student has finished, ask: *What did you find out? How do you know? Prompt, if needed: Did you have enough to fill the ten frame? How many did not fit on the ten frame? How many counters are there in all?* Then, ask the student to write the total amount. Repeat with 17 counters.

CC Task 9	
Standard (s)	**K.MD.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
Materials	Teddy Bear (or other stuffed animal)
Task	Show the students a Teddy Bear (or any other toy to which you have access). Invite the students to hold it and carefully examine it. Then say: *Describe this Teddy Bear as many different ways that you can. Prompt if needed: How would you describe the Teddy Bear's weight? The Teddy Bear's length? The distance around the Teddy Bear's belly? The Teddy Bear's foot length?*
CC Task 10	
Standard (s)	**K.MD.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
Materials	Connecting cubes: 6 blue, 8 red, 6 green, 4 yellow
Task	Show the student a collection of cubes. Say: *I have a set of cubes. Sort these cubes by color.* After the student has sorted the cubes by color, say: *Count the number of cubes in each group. How many cubes do you have in each group? Do you have any groups that have the same amount? Prompt if needed: Which groups have the same amount?*
CC Task 11	
Standard (s)	**K.G.1** Describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to. **K.G.2** Correctly name shapes regardless of their orientations or overall size.
Materials	BLM, cone, sphere, bag
Task	1. Use the shape cards. Show each shape or shape card one at a time to the student. Ask the student to name the shape (circle, square, rectangle, hexagon, cone, sphere) 2. Spread the shape cards and shapes out on a table. Place an empty bag or box on the table. Say, *I have a bag and some shapes. I am going to give you some directions about where to place the different shapes around the bag.* • Put the cone above the bag. • Put the square beside the bag. • Put the circle inside the bag. • Put the rectangle behind the bag. • Put the hexagon in front of the bag. • Put the sphere below the bag.