

Grade K Overview

Counting and Cardinality

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten

- Work with numbers 11–19 to gain foundations for place value.

Measurement and Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

Geometry

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

Mathematical Practices

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.

Ohio County Public Schools
Common Core State Standards -- Mathematics
Kindergarten Pacing Guide

1st Nine Weeks

* Indicates *Common Core State Standards* to be Assessed During this 9-Weeks Period.

Domain	Common Core State Standards	Major Topics/Concepts from DPI's Unpacking Documents <i>Learning Targets</i>	Suggested Vocabulary	Resources
Counting and Cardinality	* K.CC.1 * K.CC.3 * K.CC.4 a, b, c K.CC.6	Know number names and the count sequence. <i>Count to 25 by ones.</i> <i>Write numbers from 0 to 5. Represent a number of objects with a written numeral.</i> Count to tell the number of objects. <i>Count objects to 5.</i> Compare numbers. <i>Compare groups with up to ten objects using vocabulary: greater than, less than, equal to.</i>	counting, numerals numerals zero, one, two, three, four, five, before, after greater than, less than, and equal to	
Operations and Algebraic Thinking	K.0A.1	Understand <u>addition</u> as putting together and adding to, and understand <u>subtraction</u> as taking apart and taking from. <i>Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.</i>	Note: During this 9-weeks, focus mainly on understanding the vocabulary: addition, subtraction, compose, decompose	
Measurement and Data	K.MD.1 K.MD.3	Describe and compare measurable attributes. <i>Describe measurable attributes of objects, such as length or weight.</i> Classify objects and count the number of objects in each category. <i>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</i> Note: Limit category counts to be less than or equal to 10.	length, weight , size shape, color, alike, different, sort, long, short, heavy, light, big, small	
Geometry	K.G.1 * K.G.3 K.G.4	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). <i>Describe objects in the environment using names of shapes, and describe the relative positions of these objects.</i> <i>Identify shapes as two-dimensional or three-dimensional.</i> Analyze, compare, create, and compose shapes. <i>Analyze and compare 2- and 3-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts & other attributes.</i>	Positional words: above, below, beside, in front of, behind, next to flat, solid, sides, curved, straight, corners, equal, vertices	

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2nd Nine Weeks

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Domain	Common Core State Standards	Major Topics/Concepts from DPI's Unpacking Documents <i>Learning Targets</i>	Suggested Vocabulary	Resources
Counting and Cardinality	* K.CC.1	Know number names and the count sequence. <i>Count to <u>50</u> by ones.</i>	counting, numerals	
	* K.CC.2	<i>Count forward beginning from a given number within the known sequence.</i>	count, order, number, forward	
	* K.CC.3	<i>Write numbers <u>0 to 10</u>. Represent a number of objects with a written numeral.</i>	numerals	
	* K.CC.4 a, b, c	Count to tell the number of objects. <i>Count objects to <u>10</u>.</i>	zero, one, two, three, four, five, six, seven, eight, nine, ten, more, less	
	* K.CC.6	Compare numbers. <i>Compare group with up to ten objects using vocabulary: greater than, less than, equal to</i>	greater than, less than, equal to	
Operations and Algebraic Thinking	K.OA.1	Understand <u>addition</u> as <i>putting together</i> and <u>adding to</u>, and understand <u>subtraction</u> as <i>taking apart</i> and <u>taking from</u>. <i>Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations..</i>	Continue Vocabulary: addition, subtraction, compose, decompose	
Measurement and Data	K.MD.1	Describe and compare measurable attributes. <i>Describe measurable attributes of objects, such as length or weight.</i>	Length, weight, size	
	K.MD.3	Classify objects and count the number of objects in each category. <i>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. Note: Limit category counts to be less than or equal to 10.</i>	Shape –color, alike, different, sort, long, short, heavy, light, big, small	
Geometry	* K.G.5	Analyze, compare, create, and compose shapes. <i>Model shapes in the world by building shapes from components and drawing shapes.</i>	Sides, angle, circle, triangle, square, rectangle, sphere, cylinder, cube, cone, hexagon	
	* K.G.6	<i>Compose simple shapes to form larger shapes.</i>		

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3rd Nine Weeks

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Domain	Common Core State Standards	Major Topics/Concepts from DPI's <i>Unpacking Documents</i> <i>Learning Targets</i>	Suggested Vocabulary	Resources
Counting and Cardinality	* K.CC.1 * K.CC.2 * K.CC.3 * K.CC.4 a,b,c K.CC.7	Know number names and the count sequence. <i>Count to 75 by ones and by tens.</i> <i>Count forward beginning from a given number within the known sequence.</i> <i>Write numbers 0 to 15. Represent a number of objects with a written numeral.</i> Count to tell the number of objects. <i>Count objects to 15 in a line, a rectangular array, or a circle.</i> Compare numbers. <i>Compare two numbers between 1 & 10 presented as written numerals.</i>	counting, numerals count, number, order, forward represent, set, count, number order, count, sort, zero, number, group, add, set, Numerals, compare	
Operations and Algebraic Thinking	* K.OA.1 K.OA.3 K.OA.4 * K.OA.5	Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. <i>Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.</i> <i>Decompose numbers less than or equal to 10 into pairs in more than one way and record.</i> <i>For any number from 1 to 5, find the number that makes 10 when added to the given number and record</i> <i>Fluently add and subtract within 5.</i>	Teach and Practice solving addition and subtraction problems with objects. objects, addition, subtraction, equation Break apart, groups, decomposition Combinations, equation, groups, decompose Fluency, add, subtract	
Number & Operations in Base Ten	K.NBT.1	Work with numbers 11 – 19 to gain foundations for place value. <i>Compose & decompose numbers from 11 – 19 into tens & ones and some further ones; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</i>	Set, group, ten ones, ones	
Measurement and Data	* K.MD.1 K.MD.2 * K.MD.3	Describe and compare measurable attributes. <i>Describe measurable attributes of objects, such as length or weight.</i> <i>Directly compare two objects with a measureable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.</i> Classify objects and count the number of objects in each category. <i>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</i> Note: Limit category counts to be less than or equal to 10.	Length, size, weight, attribute, more of, less of Order, count, sort, zero, number, group, add, set,	
Geometry	* K.G.1 * K.G.2	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). <i>Describe objects in the environment using names of shapes, and describe the relative positions of these objects.</i> <i>Correctly name shapes regardless of their orientations or overall size.</i>	Above, below, beside, in front of, behind, and next to. Circle, square, triangle, rectangle, hexagon, cube, cone, cylinder, sphere	

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4th Nine Weeks

* Indicates *Common Core State Standards* to be Assessed During this 9-Weeks Period.

Domain	Common Core State Standards	Major Topics/Concepts from DPI's Unpacking Documents <i>Learning Targets</i>	Suggested Vocabulary	Resources
Counting and Cardinality	* K.CC.1 * K.CC.2 * K.CC.3 * K.CC.4 a, b, c * K.CC.5 * K.CC.7	<p>Know number names and the count sequence. <i>Count to 100 by ones and by tens.</i></p> <p><i>Count forward beginning from a given number within the known sequence.</i></p> <p><i>Write numbers 0 to 20.</i></p> <p>Count to tell the number of objects. <i>Understand the relationship between numbers and quantities. Count objects & pair with a number name ; last number named tells the number of objects counted; a successive number name refers to a quantity that is 1 larger.</i></p> <p><i>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.</i></p> <p>Compare numbers. Compare two numbers between 1 and 10 presented as written numerals.</p>	counting, numerals, tens, ones, zero count, number, order, forward represent, set, count, number count, number, line, array, circle, scatter, quantities, greater than, more, most, less than, less, least, equal to	
Operations & Algebraic Thinking	* K.OA.2 * K.OA.3 * K.OA.4	<p>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. Solve addition and subtraction word problems, and add and subtract within 10.</p> <p>Decompose numbers less than or equal to 10 into pairs in more than one way and record.</p> <p>For any number from 1 to 9, find the number that makes 10 when added to the given number and record.</p>	Continue addition and subtraction with numerous discussions of problem solving. <i>Result unknown, change unknown, and start unknown,</i> Break apart, groups Combinations of 10, equation, groups, decompose	
Number & Operations in Base Ten	* K.NBT.1	<p>Work with numbers 11 – 19 to gain foundations for place value. Compose and decompose numbers from 11 – 19 into tens and ones and some further ones; understand that these numbers are composed of ten ones <i>and</i> one, two, three, four, five, six, seven, eight, or nine ones.</p>	Set, group, tens, ones compose, decompose	
Measurement and Data	* K.MD.1 * K.MD.2	<p>Describe and compare measurable attributes. Describe <i>measurable</i> attributes of objects, such as length or weight.</p> <p>Directly compare two objects <i>with a measureable attribute in common</i> to see which object has "more of"/"less of" the attribute, and describe the difference.</p>	Compare, attribute, size, length, and weight	
Geometry	* K.G.4	<p>Analyze, compare, create, and compose shapes. Analyze and compare 2- and 3-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts and other attributes.</p>	Same, different, flat, solid, shape, side, length, circle, triangle, square, rectangle, sphere, cylinder, cube, cone, hexagon, angle, equal	

Kindergarten – Common Core State Standards -- MATH

Critical Areas

- 1. Representing, relating and operating on whole numbers, initially with sets of objects –** Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5 + 2 = 7$ and $7 - 2 = 5$. (*Kindergarten students should see addition and subtraction equations, and student writing of equations in kindergarten is encouraged, but it is not required.*) Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.
- 2. Describing shapes and space –** Students describe their physical world using geometric ideas (e.g., shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders and spheres. They use basic shapes and spatial reasoning to model objects in their environment and to construct more complex shapes.

Mathematical Practices

- 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.**

Counting and Cardinality

K.CC

Know number names and the count sequence.

- K.CC.1** Count to 100 by ones and by tens.
- K.CC.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- 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).

Count to tell the number of objects.

- K.CC.4** Understand the relationship between numbers and quantities; connect counting to cardinality.
- 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.
 - 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.
 - Understand that each successive number name refers to a quantity that is one larger.
- K.CC.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.

- 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. (Note: Include groups with up to ten objects.)
- K.CC.7** Compare two numbers between 1 and 10 presented as written numerals.

Operations and Algebraic Thinking

K.OA

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

- 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. (Note: Drawings need not show details, but should show the mathematics in the problem – this applies wherever drawings are mentioned in the CCSS.)
- 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.
- 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., $5 = 2 + 3$ and $5 = 4 + 1$).
- 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.
- K.OA.5** Fluently add and subtract within 5.

Number and Operations in Base Ten

K.NBT

Work with numbers 11 – 19 to gain foundations for place value.

- K.NBT.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 (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.

Measurement and Data

K.MD

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.
- 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.*

Classify objects and count the number of objects in each category.

- K.MD.3** Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Note: Limit category counts to be less than or equal to 10.)

Geometry

K.G

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*.
- K.G.2** Correctly name shapes regardless of their orientations or overall size.
- K.G.3** Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

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).
- K.G.5** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
- K.G.6** Compose simple shapes to form larger shapes. *For example, “Can you join these two triangles with full sides touching to make a rectangle?”*

