

Kindergarten Mathematical Focus: Number

**Counting, Representing and Comparing Whole Numbers
 Describing Shapes and Space**

Counting and Cardinality

Common Core State Standards

- K.CC.A.1 Count to 100 by ones and by tens.
- K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
- K.CC.A.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).
- K.CC.B.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
 - K.CC.B.4.A 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.
 - K.CC.B.4.B 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.
 - K.CC.B.4.C Understand that each successive number name refers to a quantity that is one larger.
- K.CC.B.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.
- K.CC.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.
- K.CC.C.7 Compare two numbers between 1 and 10 presented as written numerals.

<p>Unit Name: Counting and Cardinality</p>	<p>Enduring Understanding</p> <ul style="list-style-type: none"> ● There is a relationship between numbers and the quantities: connecting counting to cardinality ● Each word said is paired with only one object ● The last number counted is the amount of the entire set or group ● Numbers are composed of sets of smaller numbers ● Each successive number name refers to a quantity that is one larger ● Written numbers represent an amount. 	<p>Essential Questions</p> <ul style="list-style-type: none"> ● What is a number? ● Why do we use numbers? ● What is counting and how can it be used?
<p>Knows:</p> <ul style="list-style-type: none"> ● How to count to tell the number of objects ● How to count aloud to 100 by ones and tens ● How to identify 	<p>Understands:</p> <ul style="list-style-type: none"> ● The relationship between numbers and quantities; connect counting to cardinality. ● The last number name spoke tells the number of objects counted. ● The number of objects is the 	<p>Does:</p> <ul style="list-style-type: none"> ● Count to 100 by ones and by tens ● Identify numbers to 20 ● Count forward beginning from a given number within the known sequence ● Write numbers from 0 to 20.

<p>numerals to 20</p> <ul style="list-style-type: none"> • How to one-to-one count a set of objects to 20 • How to write numerals 0-20 • How to count forward beginning from any number • How to represent a quantity of objects with a written numeral • How to count to answer how many • How to compare quantities of objects (up to 10) using greater than, less than, and equal to. • How to compare two numbers between one and ten • How to subitize within 5 	<p>same regardless of their arrangement or the order in which they were counted.</p> <ul style="list-style-type: none"> • Each successive number name refers to a quantity that is one larger. 	<p>Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects)</p> <ul style="list-style-type: none"> • Say the number names in the standard order when counting objects, pairing each object with one and only one number name and each number name with one and only one object • 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 • 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 • Compare two numbers between 1 and 10 presented as written numerals • Compare quantities of objects (up to 10) using greater than, less than, and equal to.
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<h2 style="text-align: center;">Number and Operations in Base Ten</h2>		
<p>Common Core State Standards</p> <ul style="list-style-type: none"> • K.NBT.A.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 (such as $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. 		
<p>Unit Name:</p>	<p>Enduring Understanding</p> <ul style="list-style-type: none"> • Place value is the meaning of a number based on its position. • Place value is described by the name of the location of a digit in a number. 	<p>Essential Questions</p> <ul style="list-style-type: none"> • How can I use drawings and objects to compose and separate numbers from 11-19? • How can I figure out that the numbers between 11-19 are

		composed of ten ones and ones from 11-19?
Knows: <ul style="list-style-type: none"> • A group of ten ones is a “ten” • Strategies to identify teen numbers as a group of ten and some more ones 	Understands: <ul style="list-style-type: none"> • The numbers between 11 and 19 are composed of ten ones and ones from 11-19 (a group of ten and some more) • Drawings and objects can help me to understand tens and ones. 	Does: <ul style="list-style-type: none"> • Separate a group of things (11 – 19) into 10 ones and some more ones • Identify and write the teen number given a group of ten ones and some more ones • Construct a teen number using models or drawings • Write an addition number sentence for a given teen number (i.e., $13 = 10 + 3$) • Count to 100 by ones starting at any number • Count to 100 by tens • Count back from 20 by ones • Read an equation (number sentence), using the term ‘plus’ for (+), ‘minus’ for (-) and ‘equals’ for (=) • compose and decompose numbers 11 to 19 (as a group of ten and some one

Operations and Algebraic Thinking

Common Core State Standards

- K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
- K.OA.A.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.A.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.A.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.A.5 Fluently add and subtract within 5.

Unit Name:	Enduring Understanding <ul style="list-style-type: none"> • Addition as putting together and adding to • Subtraction as taking apart and taking from 	Essential Questions <ul style="list-style-type: none"> • How are numbers composed and decomposed? • What is base 10 and how can it be used? • How can I use drawings and objects to compose and separate numbers from 11-19?
Knows: <ul style="list-style-type: none"> • Addition means joining 	Understands: <ul style="list-style-type: none"> • Addition determines the whole in terms of the parts 	Does: <ul style="list-style-type: none"> • Add/Subtract to 5 from memory

<p>together/adding together</p> <ul style="list-style-type: none"> • Subtraction means taking apart and taking from • Strategies to compose and decompose numbers within 10 • Write (+, -, =) and solve equations within 5 	<ul style="list-style-type: none"> • Subtraction determines a missing part. • Adding or subtracting 0 does not change the original quantity (Additive Identity) 	<ul style="list-style-type: none"> • Model addition/subtraction problems using objects, drawings or equations. • Decompose any number less than or equal to 10 into pairs in more than one way. • Work with numbers 11-19 to gain foundations for place value
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Geometry		
<p>Common Core State Standards</p> <ul style="list-style-type: none"> • K.G.A.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 Correctly name shapes regardless of their orientations or overall size. • K.G.A.3 Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). • K.G.B.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.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes. • K.G.B.6 Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?" 		
<p>Unit Name: Geometry</p>	<p>Enduring Understanding</p> <ul style="list-style-type: none"> • Shapes have attributes that can be analyzed (regardless of orientation) • All objects have a position in space related to one another • Shapes have names • Shapes can be composed from other shapes • Shapes can be 2-dimensional (flat, lying in a plane) or 3-dimensional (solid) 	<p>Essential Questions</p> <ul style="list-style-type: none"> • How are shapes classified? • How can I compare and contrast 2 and 3 dimensional shapes? • How can I make model shapes?
<p>Knows:</p> <ul style="list-style-type: none"> • Properties of 2-dimensional shapes (circle, square, rectangle, triangle, hexagon) 	<p>Understands:</p> <ul style="list-style-type: none"> • Two shapes can be combined to make different shapes • Two dimensional shapes are "flat"(they have width and length) • Three dimensional shapes are "solid" (they have width, height, and length) 	<p>Does:</p> <ul style="list-style-type: none"> • Compose a new shape by manipulating two or more shapes (6 triangles make a hexagon) • Analyze a real world object (e.g. rocket ship) by discussing what shapes are combined to create

<ul style="list-style-type: none"> • Properties of 3-dimensional shapes (cone, sphere, cube, cylinder) • How to compose shapes (ie: 6 triangles make a hexagon) • How to use positional words (above, below, beside, in front of, behind, and next to) 		<p>the object. Recreate the shape using different shapes</p> <ul style="list-style-type: none"> • Identify 2-dimensional shapes (circle, square, rectangle, triangle, hexagon) • Identify 3-dimensional shapes (cone, sphere, cube, cylinder) • Describe attributes of shapes (faces, vertices/corners, sides, edges)
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Measurement and Data

Common Core State Standards

- K.MD.A.1 Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
- K.MD.A.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.
- K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

<p>Unit Name: Math Measurement and Data</p>	<p>Enduring Understanding</p> <ul style="list-style-type: none"> • Measurement is the dimension, quantity or capacity of an object as compared to a standard • A category is a group of objects that have similar attributes. 	<p>Essential Questions</p> <ul style="list-style-type: none"> • How do we measure things? • Why do we measure things? • When do you need to measure?
<p>Knows:</p> <ul style="list-style-type: none"> • Strategies to compare length, height, and weight of objects 	<p>Understands:</p> <ul style="list-style-type: none"> • Comparing quantities is based on 1 to 1 correspondence • Units of measure are contiguous (no overlapping or spacing) • Numerals have magnitude 	<p>Does:</p> <ul style="list-style-type: none"> • Classify objects and count the number of objects in each category

<p>(longer/shorter, taller/shorter, heavier/lighter)</p> <ul style="list-style-type: none">• How to classify and compare objects in a category (alike/different, size, shape, color, quantity)	<ul style="list-style-type: none">• Size does not influence quantity	<ul style="list-style-type: none">• Given a quantity of objects name which quantity has more/less/equal• Sort objects using measurable attributes• Describe and compare objects using measurable attributes (more, less, taller, shorter, etc.)
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