

**MISSOURI MATHEMATICS CORE ACADEMIC STANDARDS CROSSWALK TO MISSOURI GLES/CLES  
CONTENT ALIGNMENTS AND SHIFTS – Kindergarten *DRAFT***

<b>Kindergarten</b>	
<p><b>Critical Areas</b> In Kindergarten, instructional time should focus on two critical areas:</p> <ol style="list-style-type: none"> <li>1. representing, relating, and operating on whole numbers, initially with sets of objects; and</li> <li>2. describing shapes and space.</li> </ol> <p>More learning time in Kindergarten should be devoted to number than to other topics.</p>	<p><b>Mathematical Practices</b></p> <ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>4. Model with mathematics.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> <li>7. Look for and make use of structure.</li> <li>8. Look for and express regularity in repeated reasoning.</li> </ol>

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<b>Counting and Cardinality K.CC</b>			
<b>Know number names and the count sequence.</b>			
<b>K.CC.1</b>	<p>Count to 100 by ones and by tens.  <a href="http://illustrativemathematics.org/illustrations/359">http://illustrativemathematics.org/illustrations/359</a>  <a href="http://illustrativemathematics.org/illustrations/360">http://illustrativemathematics.org/illustrations/360</a>  <a href="http://illustrativemathematics.org/illustrations/402">http://illustrativemathematics.org/illustrations/402</a>  <a href="http://illustrativemathematics.org/illustrations/403">http://illustrativemathematics.org/illustrations/403</a>  <a href="http://illustrativemathematics.org/illustrations/448">http://illustrativemathematics.org/illustrations/448</a>  <a href="http://illustrativemathematics.org/illustrations/450">http://illustrativemathematics.org/illustrations/450</a>  <a href="http://illustrativemathematics.org/illustrations/451">http://illustrativemathematics.org/illustrations/451</a>  <a href="http://illustrativemathematics.org/illustrations/454">http://illustrativemathematics.org/illustrations/454</a></p>	<b>N1AK</b> <i>*rote count to 100</i> and recognize numbers up to 31	<b>N1D1</b> <i>*skip count by 2s, 5s and 10s</i>

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<p><b>K.CC.2</b>    <b>Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</b>  <a href="http://illustrativemathematics.org/illustrations/401">http://illustrativemathematics.org/illustrations/401</a>  <a href="http://illustrativemathematics.org/illustrations/361">http://illustrativemathematics.org/illustrations/361</a>  <a href="http://illustrativemathematics.org/illustrations/373">http://illustrativemathematics.org/illustrations/373</a>  <a href="http://illustrativemathematics.org/illustrations/402">http://illustrativemathematics.org/illustrations/402</a>  <a href="http://illustrativemathematics.org/illustrations/403">http://illustrativemathematics.org/illustrations/403</a>  <a href="http://illustrativemathematics.org/illustrations/448">http://illustrativemathematics.org/illustrations/448</a>  <a href="http://illustrativemathematics.org/illustrations/449">http://illustrativemathematics.org/illustrations/449</a>  <a href="http://illustrativemathematics.org/illustrations/450">http://illustrativemathematics.org/illustrations/450</a>  <a href="http://illustrativemathematics.org/illustrations/451">http://illustrativemathematics.org/illustrations/451</a>  <a href="http://illustrativemathematics.org/illustrations/454">http://illustrativemathematics.org/illustrations/454</a></p>		
<p><b>K.CC.3</b>    Write numbers from 0 to 20. <b>Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).</b>  <a href="http://illustrativemathematics.org/illustrations/398">http://illustrativemathematics.org/illustrations/398</a>  <a href="http://illustrativemathematics.org/illustrations/399">http://illustrativemathematics.org/illustrations/399</a>  <a href="http://illustrativemathematics.org/illustrations/400">http://illustrativemathematics.org/illustrations/400</a>  <a href="http://illustrativemathematics.org/illustrations/402">http://illustrativemathematics.org/illustrations/402</a>  <a href="http://illustrativemathematics.org/illustrations/403">http://illustrativemathematics.org/illustrations/403</a>  <a href="http://illustrativemathematics.org/illustrations/450">http://illustrativemathematics.org/illustrations/450</a>  <a href="http://illustrativemathematics.org/illustrations/451">http://illustrativemathematics.org/illustrations/451</a>  <a href="http://illustrativemathematics.org/illustrations/452">http://illustrativemathematics.org/illustrations/452</a>  <a href="http://illustrativemathematics.org/illustrations/454">http://illustrativemathematics.org/illustrations/454</a></p>	<p><b>N3BK</b> <i>*connect number words (orally) and quantities they represent</i></p>	<p><b>N1A1</b> <i>*read, write, and compare whole numbers less than 100</i></p>
<p><b>Count to tell the number of objects.</b></p>		
<p><b>K.CC.4</b>    Understand the relationship between numbers and quantities; connect counting to cardinality.  <a href="http://illustrativemathematics.org/illustrations/447">http://illustrativemathematics.org/illustrations/447</a></p>		

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<p><b>K.CC.4.a</b> 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.  <a href="http://illustrativemathematics.org/illustrations/447">http://illustrativemathematics.org/illustrations/447</a></p>	<p><b>N3BK</b> <i>*connect number words (orally) and quantities they represent</i></p>	
<p><b>K.CC.4.b</b> <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.</b>  <a href="http://illustrativemathematics.org/illustrations/447">http://illustrativemathematics.org/illustrations/447</a></p>		
<p><b>K.CC.4.c</b> <b>Understand that each successive number name refers to a quantity that is one larger.</b>  <a href="http://illustrativemathematics.org/illustrations/447">http://illustrativemathematics.org/illustrations/447</a></p>		
<p><b>K.CC.5</b> 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.  <a href="http://illustrativemathematics.org/illustrations/447">http://illustrativemathematics.org/illustrations/447</a></p>	<p><b>A3AK</b> <i>model situations that involve whole numbers, using pictures, objects or symbols</i></p>	
<p><b>Compare numbers.</b></p>		
<p><b>K.CC.6</b> 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. (Include groups with up to ten objects.)  <a href="http://illustrativemathematics.org/illustrations/453">http://illustrativemathematics.org/illustrations/453</a></p>		<p><b>N1A1</b> <i>*read, write, and compare whole numbers less than 100</i></p>
<p><b>K.CC.7</b> Compare two numbers between 1 and 10 <b>presented as written numerals.</b>  <a href="http://illustrativemathematics.org/illustrations/453">http://illustrativemathematics.org/illustrations/453</a></p>		<p><b>N1A1</b> <i>*read, write, and compare whole numbers less than 100</i></p>

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<b>Operations and Algebraic Thinking K.OA</b>			
<b>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>			
<b>K.OA.1</b>	Represent addition and subtraction with objects, fingers, <b>mental images</b> , drawings, <b>sounds (e.g., claps)</b> , <b>acting out situations</b> , verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem.)	<b>N1CK</b> <i>*use concrete objects to compose and decompose values up to 10</i>	<b>N2A1</b> <i>*represent/model a given situation involving addition and subtraction of whole numbers using pictures, objects, or symbols</i>
<b>K.OA.2</b>	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. <a href="http://illustrativemathematics.org/illustrations/70">http://illustrativemathematics.org/illustrations/70</a>		<b>N2A1</b> <i>*represent/model a given situation involving addition and subtraction of whole numbers using pictures, objects, or symbols</i>
<b>K.OA.3</b>	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 $5 = 4 + 1$ ). <a href="http://illustrativemathematics.org/illustrations/165">http://illustrativemathematics.org/illustrations/165</a> <a href="http://illustrativemathematics.org/illustrations/166">http://illustrativemathematics.org/illustrations/166</a> <a href="http://illustrativemathematics.org/illustrations/175">http://illustrativemathematics.org/illustrations/175</a> <a href="http://illustrativemathematics.org/illustrations/176">http://illustrativemathematics.org/illustrations/176</a> <a href="http://illustrativemathematics.org/illustrations/177">http://illustrativemathematics.org/illustrations/177</a>	<b>N1CK</b> <i>*use concrete objects to compose and decompose values up to 10</i> <b>A3AK</b> <i>*model situations that involve whole numbers, using pictures, objects or symbols</i>	<b>N2A1</b> <i>*represent/model a given situation involving addition and subtraction of whole numbers using pictures, objects, or symbols</i>
<b>K.OA.4</b>	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.	<b>A3AK</b> <i>*model situations that involve whole numbers, using pictures, objects or symbols</i>	
<b>K.OA.5</b>	<b>Fluently add and subtract within 5.</b>		
<b>Number and Operations in Base Ten K.NBT</b>			
<b>Work with numbers 11-19 to gain foundations for place value.</b>			

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<b>K.NBT.1</b>	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.	<b>A3AK</b> <i>*model situations that involve whole numbers, using pictures, objects or symbols</i>	<b>N1C1</b> <i>*compose or decompose whole numbers up to 20 using multiple strategies such as known facts, doubles and close to doubles, tens, and one place value</i>
<b>Measurement and Data K.MD</b>			
<b>Describe and compare measurable attributes.</b>			
<b>K.MD.1</b>	<b>Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</b>		
<b>K.MD.2</b>	Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and <b>describe the difference</b> . For example, directly compare the heights of two children and describe one child as taller/shorter. <a href="http://illustrativemathematics.org/illustrations/455">http://illustrativemathematics.org/illustrations/455</a> <a href="http://illustrativemathematics.org/illustrations/456">http://illustrativemathematics.org/illustrations/456</a>	<b>M1AK</b> <i>*compare and order objects according to their size or weight</i> <b>M2AK</b> <i>*measure objects by comparison of lengths (shorter, same, longer)</i>	
<b>Classify objects and count the number of objects in each category.</b>			
<b>K.MD.3</b>	Classify objects into given categories; count the numbers of objects in each category and <b>sort the categories by count. (Limit category counts to be less than or equal to 10.)</b>	<b>D1BK</b> <i>*sort items according to their attributes</i> <b>N3BK</b> <i>*connect number words (orally) and quantities they represent</i>	<b>D1B1</b> <i>*sort and classify items according to their attributes</i>
<b>Geometry K.G</b>			
<b>Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>			

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<b>K.G.1</b>	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as <i>above, below, beside, in front of, behind, and next to</i> .	<b>G1AK</b> *identify and <b><i>describe 2- and 3-dimensional shapes</i></b> using physical models ( <i>circle, rhombus, rectangle, triangle, sphere, rectangular prism, cylinder, pyramid</i> ) <b><i>that represent shapes in their environment</i></b> <b>G2AK</b> * <b><i>describe</i></b> , name and interpret <b><i>relative positions in space (above, below, front, behind)</i></b>	
<b>K.G.2</b>	Correctly name shapes <b>regardless of their orientations or overall size.</b>	<b>G1AK</b> * <b><i>identify</i></b> and describe <b><i>2- and 3-dimensional shapes</i></b> using physical models ( <i>circle, rhombus, rectangle, triangle, sphere, rectangular prism, cylinder, pyramid</i> ) that represent shapes in their environment	
<b>K.G.3</b>	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).	<b>G1AK</b> * <b><i>identify</i></b> and describe <b><i>2- and 3-dimensional shapes</i></b> using physical models ( <i>circle, rhombus, rectangle, triangle, sphere, rectangular prism, cylinder, pyramid</i> ) that represent shapes in their environment	
<b>Analyze compare, create, and compose shapes.</b>			
<b>K.G.4</b>	Analyze and compare two- and <b>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).</b> <a href="http://illustrativemathematics.org/illustrations/515">http://illustrativemathematics.org/illustrations/515</a>		<b>G1A3</b> * <b><i>compare and analyze 2- dimensional shapes</i></b> by describing their attributes (circle, rectangle, rhombus, trapezoid, triangle)
<b>K.G.5</b>	<b>Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</b>		

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<b>K.G.6</b>	Compose simple shapes to form larger shapes. <i>For example, “Can you join these two triangles with full sides touching to make a rectangle?”</i>		<b>G1C1</b> <i>*use models to compose and decompose 2-dimensional shapes</i>
<b>Kindergarten GLEs not included in Kindergarten CAS</b>			
<b>N1BK</b>	*recognize $\frac{1}{2}$ of a shape		
<b>A1AK</b>	*recognize or repeat sequences of sounds or shapes		
<b>A1BK</b>	*create and continue patterns		
<b>G3AK</b>	*use manipulatives to recognize from different perspectives and orientations models of slides and turns		
<b>M1CK</b>	*describe passage of time using terms such as today, yesterday, tomorrow		
<b>M1DK</b>	*identify and know the value of a penny, nickel, dime, and quarter		
<b>D1CK</b>	*create graphs using physical objects		