



*Mississippi College and Career Readiness Standards for  
Mathematics Scaffolding Document*

***Grade K***

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Know number names and the count sequence</b>			
<p><b><u>K.CC.1</u></b> Count to 100 by ones and by tens.</p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>How to recite numbers 1 to 30 in the correct order.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>Numbers must be counted in the correct order.</li> <li>The patterns in counting (for example, ones are repeated each time a new decade or ten is reached as in <b>21, 22, 23...31, 32, 33...</b>).</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>Rote counting of numbers in the correct order to 100 (only verbal counting).</li> <li>Rote counting of numbers by tens (beginning at decade numbers as in 10, 20, 30, 40, 50, 60, 70...).</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Know number names and the count sequence</b>			
<p><b><u>K.CC.2</u></b>  <b>Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</b></p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• How to recite numbers 1 to 30 in the correct order.</li> <li>• The sequential aspect of counting (i.e. 1 comes before 2, 2 comes before 3, etc.)</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• Numbers must be counted in the correct order.</li> <li>• The counting sequence is the same, no matter where you begin counting.</li> <li>• The patterns in counting (for example, ones are repeated each time a new decade or ten is reached as in <b>21, 22, 23...31, 32, 33...</b>).</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Start rote counting at any number between 1 and 100 and continue to 100 (only verbal counting).</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Know number names and the count sequence</b>			
<p><b><u>K.CC.3</u></b> 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).</p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● How to recite numbers 1 to 30 in the correct order.</li> <li>● How to recognize, name, and attempt writing numerals 0–10.</li> <li>● One to one correspondence.</li> <li>● The last number said in the counting sequence is the number of objects.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● Numbers must be counted in the correct order.</li> <li>● When counting a set of objects, begin with the number 1.</li> <li>● A numeral is a symbol for a quantity.</li> <li>● 0 represents none.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Write a numeral (0–20) to match a set of counted objects.</li> <li>● Count out a number of objects (0–20) to match a numeral.</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Count to tell the number of objects</b>			
<p><b><u>K.CC.4a</u></b>  <b>Understand the relationship between numbers and quantities; connect counting to cardinality.</b></p> <p><b>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.</b></p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• How to recite numbers 1 to 30 in the correct order.</li> <li>• How to count a group of 10 arranged objects and 7 scattered objects.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• Numbers must be counted in the correct order.</li> <li>• When counting a set of objects, begin with the number 1.</li> <li>• One to one correspondence (each object represents a number name).</li> <li>• Objects are only counted once.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Count a set of objects.</li> <li>• Keep track of which objects have been counted and which objects have not.</li> <li>• Point to each object (one at a time) and say the counting sequence.</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Count to tell the number of objects</b>			
<p><b><u>K.CC.4b</u></b> Understand the relationship between numbers and quantities; connect counting to cardinality.</p> <p><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></p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● How to recite numbers 1 to 30 in the correct order.</li> <li>● The sequential aspect of counting (i.e. 1 comes before 2, 2 comes before 3, etc.)</li> <li>● How to count a group of 10 arranged objects and 7 scattered objects.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● Numbers must be counted in the correct order.</li> <li>● When counting a set of objects, begin with the number 1.</li> <li>● One to one correspondence (each object represents a number name).</li> <li>● Objects are only counted once.</li> <li>● The group of objects is the same quantity, no matter the arrangement.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Count a set of objects.</li> <li>● Keep track of which objects have been counted and which objects have not.</li> <li>● Point to each object (one at a time) and say the counting sequence.</li> <li>● Answer the question, “How many are there?,” knowing that the last number counted is the answer.</li> </ul>

## GRADE K

### Counting and Cardinality

#### Count to tell the number of objects

<p><b><u>K.CC.4c</u></b>  <b>Understand the relationship between numbers and quantities; connect counting to cardinality.</b></p> <p><b>c. Understand that each successive number refers to a quantity that is one larger.</b></p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● How to recite numbers 1 to 30 in the correct order.</li> <li>● How to count a group of 10 arranged objects and 7 scattered objects.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● Numbers must be counted in the correct order.</li> <li>● When counting a set of objects, begin with the number 1.</li> <li>● One to one correspondence (each object represents a number name).</li> <li>● Objects are only counted once.</li> <li>● The group of objects is the same quantity no matter the arrangement.</li> <li>● The number name 15 is larger than the number name 14 and so forth.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Count a set of objects.</li> <li>● Keep track of which objects have been counted and which objects have not.</li> <li>● Point to each object (one at a time) and say the counting sequence.</li> <li>● Answer the question, “How many are there?,” knowing that the last number counted is the answer.</li> <li>● Answer the question, “How many would there be if we added one more object?”</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Count to tell the number of objects</b>			
<p><b><u>K.CC.5</u></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.</p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• How to recite numbers 1 to 30 in the correct order.</li> <li>• How to count a group of 10 arranged objects and 7 scattered objects.</li> <li>• One to one correspondence (each object represents a number name).</li> <li>• When counting a set of objects, begin with the number 1.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• Numbers must be counted in the correct order.</li> <li>• Objects are only counted once.</li> <li>• The group of objects is the same quantity, no matter the arrangement.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Count a set of objects (up to 20), and tell how many.</li> <li>• Given a number, count out that number of objects (up to 20).</li> <li>• Keep track of which objects have been counted and which objects have not.</li> <li>• Point to each object (one at a time) and say the counting sequence.</li> <li>• Answer the question, “How many are there?,” knowing that the last number counted is the answer.</li> <li>• Explain counting strategy.</li> </ul>



<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Compare numbers</b>			
<p><b><u>K.CC.6</u></b>  <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.<sup>1</sup></b></p> <p><sup>1</sup> Include groups with up to ten objects.</p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• The sequential aspect of counting (i.e. 1 comes before 2, 2 comes before 3, etc.)</li> <li>• Comparative language such as more than, less than, equal to, and different to compare objects.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• The term “greater than” means more than (larger quantity).</li> <li>• The term “less than” means fewer (smaller quantity).</li> <li>• The term “equal” means the quantity is the same.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Compare two groups of objects (with up to 10 objects in each group).</li> <li>• Use matching strategies (e.g., students line up objects with one characteristic [squares] to another row of objects with a different characteristic [circles]. Students can see which objects do not have a partner). Use language greater than, less than, or equal to, after determining the comparison.</li> <li>• Explain counting strategy.</li> </ul>

<b>GRADE K</b>			
<b>Counting and Cardinality</b>			
<b>Compare numbers</b>			
<p><b><u>K.CC.7</u></b>  <b>Compare two numbers between 1 and 20 presented as written numerals.</b></p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• The sequential aspect of counting (i.e. 1 comes before 2, 2 comes before 3, etc.)</li> <li>• Comparative language such as more than, less than, equal to, and different to compare objects.</li> <li>• Significance of each numeral through multiple experiences with tools, such as ten frames, rekenreks, counters, etc.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• The term “greater than” means more than (a larger quantity).</li> <li>• The term “less than” means fewer (a smaller quantity).</li> <li>• The term “equal” means the quantity is the same.</li> <li>• A numeral is a symbol for a quantity of objects; a representation of a particular quantity.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Compare two numbers (only seeing the numeral) by using the language “greater than, less than, or equal to.”</li> </ul>

## GRADE K

### Operations and Algebraic Thinking

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<sup>1</sup>, sounds (e.g. claps), acting out situations, verbal explanations, expressions, or equations.**

<sup>1</sup> Drawings need not show details, but should show the mathematics in the problem.

#### Desired Student Performance

**A student should know**

- Rapid recognition of numbers to 5 on their fingers.
- When counting, to say the number names in order.
- Each object represents one number name (one to one correspondence).
- When counting a number of objects, the last number name tells the number of objects counted.

**A student should understand**

- There are multiple ways to solve addition and subtraction problems.
- How to represent addition and subtraction number sentences.
- The equal sign can mean “makes” or “results in,” but always means “is the same number as”.
- Addition means to add to or put together, and is noted with a “+” symbol.
- Subtraction means to take from or take apart, and is noted with a “-” symbol.

**A student should be able to do**

- Act out addition and subtraction situations given by the teacher.
- Model with mathematics by drawing (with no importance to detail of the pictures).
- Picture mental images (dot patterns, pictures of objects, ten frames) of number quantities (also known as subitization).
- Add to, with the result unknown ( $A + B = ?$ ).
- Take from, with the result unknown ( $C - B = ?$ ).
- Put together/take apart with total unknown ( $A + B = ?$ ) and both addends unknown ( $C = ? + ?$ ).

## GRADE K

### Operations and Algebraic Thinking

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

**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.**

**Desired Student Performance**

**A student should know**

- Rapid recognition of numbers to 10 on their fingers.
- How to decompose and compose numbers up to 10 (using manipulatives such as ten-frames, ten wands, rekenreks, or dot patterns).
- When counting to say the number names in order, each object represents one number name (one to one correspondence).
- When counting a number of objects, the last number name tells the number of objects counted.

**A student should understand**

- There are multiple ways to solve addition and subtraction problems.
- How to represent addition and subtraction number sentences.
- The equal sign can mean “makes” or “results in,” but always means “is the same number as.”
- Addition means to add to or put together, and is noted with the “+” symbol.
- Subtraction means to take from or take apart, and is noted with the “-” symbol.

**A student should be able to do**

- Act out addition and subtraction word problems given by the teacher.
- Model with mathematics using various objects or tools (ten frames, ten wands, rekenreks, dot patterns, double sided counters, etc.) or through drawings.
- Add to, with the result unknown ( $A + B = ?$ ).
- Take from, with the result unknown ( $C - B = ?$ ).
- Put together/take apart with total unknown ( $A + B = ?$ ) and both addends unknown ( $C = ? + ?$ ).

## GRADE K

### Operations and Algebraic Thinking

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

**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  $5 = 4 + 1$ ).**

**Desired Student Performance**

**A student should know**

- Rapid recognition of numbers to 10 on their fingers.
- When counting, to say the number names in order, each object represents one number name (one to one correspondence).
- When counting a number of objects, the last number name tells the number of objects counted.

**A student should understand**

- The equal sign can mean “makes” or “results in”, but always means “is the same number as.”
- The plus sign (+) means to “put together” or “join.”
- A whole can be separated into two or more parts.
- A pair, in this standard, means two numbers.
- How to represent the decomposition of number partners into an equation (e.g.,  $5 = 2 + 3$  and  $5 = 4 + 1$ ).

**A student should be able to do**

- Break apart a number to find all of its pairs or partners using various objects or tools (e.g., ten-frames, ten wands, rekenreks, dot patterns, double sided counters, etc.).
- Model with mathematics.
- Reason abstractly and quantitatively.
- Record decomposition through drawings or an equation.

## GRADE K

### Operations and Algebraic Thinking

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

**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.**

**Desired Student Performance**

**A student should know**

- Rapid recognition of numbers to 10 on their fingers.
- When counting, say the number names in order.
- Each object represents one number name (one to one correspondence).
- When counting a number of objects, the last number name tells the number of objects counted.

**A student should understand**

- The equal sign can mean “makes” or “results in,” but always means “is the same number as.”
- The plus sign (+) means “put together” or “join.”
- Two parts (number partners) combine to make a whole (the number 10).
- How to represent the composition of number partners into an equation to represent 10 as the whole (e.g.,  $5 + ? = 10$ ,  $10 = 2 + ?$ ).

**A student should be able to do**

- Make 10, when given a number 1–9, using various objects or tools (e.g., ten frames, ten wands, rekenreks, dot patterns, double sided counters).
- Model with mathematics.
- Reason abstractly and quantitatively.
- Record method for making 10 through drawings or an equation.

## GRADE K

### Operations and Algebraic Thinking

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

**K.OA.5**

**Fluently add and subtract within 5.**

**Desired Student Performance**

**A student should know**

- Rapid recognition of numbers to 5 on their fingers.
- When counting, to say the number names in order.
- Each object represents one number name (one to one correspondence).
- When counting a number of objects, the last number name tells the number of objects counted.
- Addition means to add to or put together (noted by a “+” sign).
- Subtraction means to take from or take apart (noted by a “-” sign).
- The equal sign can mean “makes” or “results in,” but always means “is the same number as.”

**A student should understand**

- To use visual images or representations of numbers (learned through dot patterns) to add or subtract, also known as subitization.
- That numbers can be added in any order (commutative property), and this is a strategy for solving facts, such as  $1 + 4$  quicker by switching the addends to only have to count up 1.

**A student should be able to do**

- Quickly add and subtract up to 5.
- Use strategies such as counting on, counting back, fingers, mental representations, etc., to solve problems.

## GRADE K

### Numbers and Operations in Base Ten

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

<p><b><u>K.NBT.1</u></b> Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects and drawings, and record each composition or decomposition by a drawing or equation (e.g., <math>18 = 10 + 8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• The counting sequence.</li> <li>• One to one correspondence.</li> <li>• How to write and read the numbers 11 to 19.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• The numbers 11 to 19 are created by using a 10 and then adding ones. Numbers can be “put together” (composed) or “broken apart” (decomposed).</li> <li>• The digit in the tens place describes the number of tens, and the number in the ones place describes the number of ones.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Model with mathematics by using tools such as a ten-frame, drawings, or rekenreks to compose numbers 11 to 19.</li> <li>• Describe that a ten frame can contain only 10 ones and there will be some leftover when modeling counting numbers 11 to 19.</li> <li>• Write an addition equation to match the model of tens and ones.</li> <li>• Count on from 10 (For example, when modeling the number 14 on a ten frame, the student would count “10, 11, 12, 13, 14,” instead of beginning with 1.).</li> </ul>



<b>GRADE K</b>			
<b>Measurement and Data</b>			
Describe and compare measurable attributes			
<p><b><u>K.MD.1</u></b> Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.</p>	Desired Student Performance		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• Vocabulary such as small, big, short, tall, empty, full, heavy, and light.</li> <li>• Objects can be measured for different purposes.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• “Length” is the term used to measure how long an object is.</li> <li>• “Weight” is the term used to measure how heavy an object is.</li> <li>• An object’s weight and length can be described.</li> <li>• Length and weight are relative to other objects.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Use words to describe an object by stating if it is short, long, heavy, light, etc.</li> <li>• Know how to determine an object’s weight or length using nonstandard units of measurement (balance scale, connecting cubes, paper clips, etc.).</li> </ul>

<b>GRADE K</b>			
<b>Measurement and Data</b>			
<b>Describe and compare measurable attributes</b>			
<p><b><u>K.MD.2</u></b>  <b>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. <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i></b></p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● Terms bigger, longer, taller, heavier, same weight, same amount and be able to use them appropriately.</li> <li>● How to use nonstandard units of measurement.</li> <li>● Length is the term used to measure how long an object is.</li> <li>● Weight is the term used to measure how heavy an object is.</li> <li>● An object’s weight and length can be described.</li> <li>● Length and weight are relative to other objects.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● The terms shorter/taller are used for comparing height.</li> <li>● The terms heavier/lighter are used for comparing weight.</li> <li>● When placing objects next to one another, they must be lined up evenly.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Measure objects by placing them next to one another.</li> <li>● Use words to compare the height of two objects.</li> <li>● Use words to compare the weight of two objects.</li> <li>● Model with mathematics by using nonstandard units of measurement (balance scale, connecting cubes, paper clips, etc.).</li> </ul>

<b>GRADE K</b>			
<b>Measurement and Data</b>			
<b>Classify objects and count the number of objects in each category</b>			
<p><b><u>K.MD.3</u></b>  <b>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</b> <sup>1</sup></p> <p><sup>1</sup> Limit category counts to be less than or equal to 10.</p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>• How to count objects 1 to 10.</li> <li>• How to compare and contrast objects by looking at their attributes.</li> <li>• One to one correspondence.</li> <li>• The last number said in the counting sequence is the number of objects in the group.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>• Objects can be sorted by different categories.</li> <li>• Sorting means to separate objects and put them together with other objects that have something in common (color, shape, etc.).</li> <li>• A category is a group of similar objects.</li> <li>• The count is the same when they both have the same number of objects.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>• Sort objects into categories (e.g., color, size, length, height, weight, area, temperature).</li> <li>• Count how many objects are in each category (the count will be limited to 10 objects in each category).</li> <li>• Sort the categories based on their counts (for example, all categories that had a count of 5 objects will be placed together.).</li> </ul>

## GRADE K

### Geometry

**Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)**

<p><b><u>K.G.1</u></b> 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.</p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● Names of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</li> <li>● Shapes are found in different objects.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● A shape can change location and orientation without changing shape.</li> <li>● Objects are located in relative positions.</li> <li>● No matter the position of the object, the object is still the same.</li> <li>● Objects around us are three-dimensional shapes, and these shapes have a mathematical term (e.g., a ball should be called a sphere).</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Describe everyday objects by telling the name of their shape.</li> <li>● Describe non-examples of shapes.</li> <li>● Use terms such as “in front of” to describe the location of an object in relation to another; use prepositions appropriately to describe objects (e.g., the ball is in front of me).</li> </ul>

## GRADE K

### Geometry

**Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)**

<p><b><u>K.G.2</u></b>  <b>Correctly name shapes regardless of their orientations or overall size.</b></p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● Names of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</li> <li>● Shapes are found in different objects.</li> <li>● How to describe everyday objects by telling the name of their shapes.</li> <li>● How to describe non-examples of shapes.</li> <li>● How to give attributes of each shape.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● A shape can change location, size, color, and orientation without changing shape (non-defining attributes).</li> <li>● No matter the position of the object, the object is still the same.</li> <li>● Objects around us are three-dimensional shapes, and these shapes have a mathematical term (e.g., a ball should be called a sphere).</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Name shapes when turned in various directions (e.g., a triangle is a triangle, even when turned upside down).</li> <li>● Name a shape of various sizes (e.g., the shape is a triangle, even though it is larger than another triangle).</li> </ul>

## GRADE K

### Geometry

**Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)**

**K.G.3**

**Identify shapes as two-dimensional (lying in a plane “flat”) or three-dimensional (“solid”).**

#### Desired Student Performance

**A student should know**

- Names of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
- Shapes are found in different objects.
- How to describe everyday objects by telling the name of their shapes.
- How to describe non-examples of shapes.
- How to give attributes (defining and non-defining) of each shape.

**A student should understand**

- Objects around us are three-dimensional shapes, and these shapes have a mathematical term (e.g., a ball should be called a sphere).
- Three-dimensional shapes are solid figures composed of two-dimensional shapes (faces) and have volume.
- Two-dimensional shapes are flat.

**A student should be able to do**

- Determine whether a shape (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres) is two- or three-dimensional.

## GRADE K

### Geometry

#### Analyze, compare, create, and compose shapes

<p><b><u>K.G.4</u></b>  <b>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).</b></p>	<b>Desired Student Performance</b>		
	<p><b>A student should know</b></p> <ul style="list-style-type: none"> <li>Names of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</li> <li>Shapes are found in different objects.</li> <li>How to describe everyday objects by telling the name of their shapes.</li> <li>How to describe non-examples of shapes.</li> <li>Attributes of each shape.</li> <li>How to determine whether a shape is two- or three-dimensional.</li> </ul>	<p><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>Three-dimensional shapes are solid figures composed of two-dimensional shapes (faces) and have volume.</li> <li>Two-dimensional shapes are flat.</li> <li>Shapes have different parts that we can describe informally (corners) or formally with math language (vertices).</li> <li>Shapes are alike and different.</li> </ul>	<p><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>Compare two shapes (two- or three-dimensional) by describing their similarities (number of sides, vertices, etc.).</li> <li>Contrast two shapes (two- and three-dimensional) by describing their differences (number of sides, vertices, etc.).</li> <li>Analyze two- and three-dimensional shapes by description of their “parts” (e.g., this shape has no points).</li> </ul>

**GRADE K**

**Geometry**

Analyze, compare, create, and compose shapes

**K.G.5**

**Model two and three dimensional shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.**

**Desired Student Performance**

**A student should know**

- Name of shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
- Shapes are found in different objects.
- How to describe everyday objects by telling the name of their shapes.
- How to describe non-examples of shapes.
- How to give attributes of each shape.
- How to determine whether a shape is two- or three-dimensional.
- How to use materials, such as Popsicle sticks, play dough, blocks, pipe cleaners, and pattern blocks to create shapes.

**A student should understand**

- Three-dimensional shapes are solid figures composed of two-dimensional shapes (faces) and have volume.
- Two-dimensional shapes are flat.
- Shapes have different parts that we can describe informally (corners) or formally with math language (vertices).
- Shapes have similarities and differences.

**A student should be able to do**

- Build shapes using objects (e.g., sticks and clay balls).
- Model shapes through drawing.



<b>GRADE K</b>			
<b>Geometry</b>			
<b>Analyze, compare, create, and compose shapes</b>			
<p><b><u>K.G.6</u></b>  <b>Compose simple shapes to form larger shapes. For example, “Can you join these two triangles with full sides touching to make a rectangle?”</b></p>	<b>Desired Student Performance</b>		
	<p style="text-align: center;"><b>A student should know</b></p> <ul style="list-style-type: none"> <li>● Name of shapes (squares, circles, triangles, rectangles, and hexagons).</li> <li>● How to compose simple shapes.</li> <li>● How to use materials, such as Popsicle sticks, play dough, blocks, pipe cleaners, and pattern blocks to create shapes.</li> </ul>	<p style="text-align: center;"><b>A student should understand</b></p> <ul style="list-style-type: none"> <li>● A shape can change location and orientation without changing shape.</li> <li>● Shapes can be reoriented by using flips, slides, and turns.</li> <li>● Smaller shapes can be joined to create a new, larger shape.</li> </ul>	<p style="text-align: center;"><b>A student should be able to do</b></p> <ul style="list-style-type: none"> <li>● Build larger shapes from using smaller shapes (e.g., pattern blocks).</li> <li>● Name the new shape that is built from smaller shapes.</li> </ul>