

Seymour Public Schools Math Grade K Unit 1

<p>Grade: Kindergarten</p> <p>Unit 1-Identify, Describe, Compare, Analyze and Compose 2D and 3D Shapes</p>	<p>Subject: Math</p> <ul style="list-style-type: none"> • Time Frame: 3-4 Weeks • Domain: Geometry 	
<p>Standards</p>	<p>Content Standards: K.G.1, K.MD.3, K.G.2, K.G.3, K.G.4, K.G.5, K.G.6. http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf</p>	<p>Practice Standards: MP 1, 2, 3, 4, 5, 6, 7, 8</p>
<p>Enduring Understandings</p>	<ol style="list-style-type: none"> 1. Shapes have names and attributes and can be decomposed. 2. Shapes can be used to compose new shapes. 3. Shapes can be sorted and classified. 4. Shapes can be seen and used in everyday life. 5. Shapes can be described. 6. Shapes can be compared using attributes. 7. The shape remains the same regardless of size, orientation, or position. 	
<p>Essential Questions</p>	<ol style="list-style-type: none"> 1. How can we name and describe shapes? 2. How can we create and compose shapes? 3. How can we sort and classify shapes? 4. How can we use shapes in everyday life? 5. How can we compare shapes? 6. Does a shape change when its size, orientation or position change? 	
<p>Vocabulary</p>	<p>Above, below, beside, in front of, next to, behind, circle, flat, rectangle, square, triangle, sort, classify, create, describe, compare, size, sides, vertex, vertices, corners, straight line, curved line, diagonal, round, surface, solid, attribute, right, left, cone, cube, cylinder, sphere</p> <p style="text-align: center;">See Common Core Georgia Performance Standards Mathematics Glossary</p> <p style="text-align: center;">https://www.georgiastandards.org/Common-Core/Documents/CCGPS_Mathematics_Glossary.pdf</p>	

Priority and Supporting CCSS	Explanations and Examples*
<p>K.G.1. 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,</i> and <i>next to</i>.</p>	<p>K.G.1. Examples of environments in which students would be encouraged to identify shapes would include nature, buildings, and the classroom using positional words in their descriptions.</p> <p>Teachers should work with children and pose four mathematical questions: Which way? How far? Where? What objects? To answer these questions, children develop a variety of important skills contributing to their spatial thinking.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Teacher holds up an object such as an ice cream cone, a number cube, ball, etc. and asks students to identify the shape. Teacher holds up a can of soup and asks, “What shape is this can?” Students respond “cylinder!” • Teacher places an object next to, behind, above, below, beside, or in front of another object and asks positional questions. Where is the water bottle? (water bottle is placed behind a book) Students say “The water bottle is behind the book.” <p>Students should have multiple opportunities to identify shapes; these may be displayed as photographs or pictures using the document camera or interactive whiteboard.</p>

*Source – Connecticut Core Standards for Mathematics as adapted from the Arizona Academic Content Standards

<p>K.G.2. Correctly name shapes regardless of their orientations or overall size.</p>	<p>K.G.2. Students should be exposed to many types of triangles in many different orientations in order to eliminate the misconception that a triangle is always right-side-up and equilateral.</p> <div style="text-align: center;">  </div> <p>K.G.2. Students should also be exposed to many shapes in many different sizes. Examples:</p> <ul style="list-style-type: none"> • Teacher makes pairs of paper shapes that are different sizes. Each student is given one shape and the objective is to find the partner who has the same shape • Teacher brings in a variety of spheres (tennis ball, basketball, globe, ping pong ball, etc.) to demonstrate that size doesn't change the name of a shape
<p>K.G.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three dimensional (“solid”).</p>	<p>K.G.3. Student should be able to differentiate between two dimensional and three dimensional shapes.</p> <ul style="list-style-type: none"> • Student names a picture of a shape as two dimensional because it is flat and can be measured in only two ways (length and width) • Student names an object as three dimensional because it is not flat (it is a solid object/shape) and can be measured in three different ways (length, width, height/depth)
<p>K.G.4. Analyze and compare two-dimensional 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).</p>	<p>K.G.4. Students analyze and compare two-dimensional and three-dimensional shapes by observations. Their visual thinking enables them to determine if things are alike or different based on the appearance of the shape. Students sort objects based on appearance. Even in early explorations of geometric properties, they are introduced to how categories of shapes are subsumed within other categories. For instance, they will recognize that a square is a special type of rectangle. Students should be exposed to triangles, rectangles, and hexagons whose sides are not all congruent. They first begin to describe</p>

	<p>these shapes using everyday language and then refine their vocabulary to include sides and vertices/corners. Opportunities to work with pictorial representations, concrete objects, as well as technology help students develop their understanding and descriptive vocabulary for both two- and three-dimensional shapes.</p>
<p>K.G. 5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p>	<p>K.G.5. Since two-dimensional shapes are flat and three-dimensional shapes are solid, students should draw two-dimensional shapes and build three-dimensional shapes. Shapes may be built using materials such as clay, toothpicks, marshmallows, gumdrops, straws, etc.</p>
<p>K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. **</p> <p>** Limit category counts to be less than or equal to 10.</p>	<p>K.MD.3. Possible objects to sort include buttons, shells, shapes, beans, etc. After sorting and counting, it is important for students to:</p> <ul style="list-style-type: none"> • explain how they sorted the objects • label each set with a category • answer a variety of counting questions that ask, “How many ...” • compare sorted groups using words such as, “most”, “least”, “alike” and “different”
<p>K.G.6. 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></p>	<p>K.G.6. Students use pattern blocks, tiles, or paper shapes and technology to make new two-dimensional and three-dimensional shapes. Their investigations allow them to determine what kinds of shapes they can join to create new shapes. They answer questions such as “What shapes can you use to make a square, rectangle, circle, triangle? ...etc.”</p> <p>Students may use a document camera to display shapes they have composed from other shapes. They may also use an interactive whiteboard to copy shapes and compose new shapes.</p> <p>They should describe and name the new shape.</p>

Resources

Daily Routine: Math Expressions Teacher Edition Volume 1: Daily Routines xxxi: Omit Using the Tens and Ones Flip Chart
Common Core Georgia Performance Standards- Kindergarten Unit 1: Use tasks at teacher's discretion.

Unit can be found at https://www.georgiastandards.org/Common-Core/Common%20Core%20Frameworks/CCGPS_Math_K_Unit1FrameworkSE.pdf

Literature: When A Line Bends... A Shape Begins by Shonda Greene, The Greedy Triangle by Marilyn Burns, The Shape of Things by Dayle Ann Dobbs, Grandfather Tang's Story by Ann Tompert

Unit Assessments

Links below have resources and formative assessments:

Hawaii Standards Toolkit- Use assessments at teacher's discretion.

<http://standardstoolkit.k12.hi.us/common-core/mathematics/mathematics-assessments/assessment-listing/?code=K.G>

Suggested Assessment: Shapes & Positions (KG1 & KG2), Let's Build Shapes (KG4 & KG5), Geoboards (KG5)

Formative Assessments- Common Core Georgia Performance Standards- Kindergarten Unit : www.georgiastandards.org
Performance Assessments

Technology: Videos, Websites, Links

<http://www.k-5mathteachingresources.com/kindergarten-math-activities.html>

IPad Apps

videos for teachers:

<https://www.teachingchannel.org/videos/tch-presents-kindergarten-common-core>

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