

## Unit D - One of These Shapes Is Not Like the Others

### Overview

In this unit, students build upon their Kindergarten understanding to examine, identify, compare, and sort two-dimensional and three-dimensional shapes. They explore how to describe the world around them using geometry terms. Characteristics of shapes are realized through careful analysis as students notice how some are helpful in defining the geometry of a shape, while others are not. They will construct and deconstruct a variety of shapes in order to build both realistic and imagined objects and develop an understanding of how shapes can be divided into equal parts.

**21<sup>st</sup> Century Capacities:** Collective Intelligence; Imagining

### Stage 1 - Desired Results

ESTABLISHED GOALS/ STANDARDS	<b>Transfer:</b>	
MP 3 Construct viable arguments and critique the reasoning of others. MP 4 Model with mathematics. MP7 Look for and make use of structure	<p style="margin: 0;"><i>Students will be able to independently use their learning in new situations to...</i></p> <ol style="list-style-type: none"> <li>1. apply knowledge of shapes in our world to create a design or object ( Imagining );</li> <li>2. work together to examine, identify, compare, compose, decompose and sort two-dimensional and three-dimensional shapes (Collective Intelligence).</li> </ol>	
	<b>Meaning:</b>	
CCSS.MATH.CONTENT.1.G.A.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.  CCSS.MATH.CONTENT.1.G.A.2 Compose two-dimensional shapes	<p style="margin: 0;"><b>UNDERSTANDINGS:</b> <i>Students will understand that:</i></p> <ol style="list-style-type: none"> <li>1. Shapes can be identified, described, composed, sorted, and compared by a variety of attributes</li> <li>2. Shapes exist everywhere and help to describe our world</li> <li>3. Some attributes help to define the geometry of a shape</li> <li>4. We can work respectfully and responsibly</li> </ol>	<p style="margin: 0;"><b>ESSENTIAL QUESTIONS:</b> <i>Students will explore &amp; address these recurring questions:</i></p> <ol style="list-style-type: none"> <li>A. How does geometry help me understand the world around me?</li> <li>B. What are the attributes of this shape? How are they alike and different to another shape?</li> <li>C. How can shapes be divided into equal parts?</li> <li>D. How do I work respectfully and responsibly with my classmates to solve a math problem?</li> </ol>

## Grade 1 Math Curriculum

<p>(rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.<sup>1</sup></p> <p>CCSS.MATH.CONTENT.1.G.A.3 Partition circles and rectangles into two and four equal shares, describe the shares using the words <i>halves</i>, <i>fourths</i>, and <i>quarters</i>, and use the phrases <i>half of</i>, <i>fourth of</i>, and <i>quarter of</i>. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.</p>	with others to achieve a goal	
	<b>Acquisition:</b>	
	<p><i>Students will know...</i></p> <ol style="list-style-type: none"> <li>1. Defining vs. non-defining attributes</li> <li>2. How to create composite shapes</li> <li>3. How to sort shapes by attributes</li> <li>4. How to describe, compare and locate shapes in their environment</li> <li>5. Shapes can be decomposed into halves, fourths, and thirds</li> <li>6. How to work respectfully and responsibly with classmates</li> <li>7. Vocabulary: (terms with * Word Resource Cards are available) attribute*, compare*, equal*, face*, flat, fourth*, fraction*, half*, identify, parallel lines, quarter (one-fourth), side*, solid, sphere*, third*, vertex* (Exposed to in Kindergarten: square, hexagon*, circle*, cone*, cube*, cylinder*, edge*, pyramid*, rectangle*, rectangular prism*, rhombus*, square*, three-dimensional shape*, trapezoid*, triangle, triangular prism*, two-dimensional shape*, corner)</li> </ol>	<p><i>Students will be skilled at...</i></p> <ol style="list-style-type: none"> <li>1. Identifying, naming, and locating triangles, squares, rectangles, trapezoids, rhombuses, and hexagons</li> <li>2. Identifying, naming and locating cubes, rectangular prisms, cones, cylinders, spheres, triangular prisms and pyramids</li> <li>3. Partitioning circles and rectangles into halves and fourths</li> <li>4. Categorizing shapes based on attributes.</li> <li>5. Completing math task with classmates.</li> </ol>