

Unit D - Shaping Up

Overview

Students begin to examine, identify, compare, and sort two-dimensional and three-dimensional shapes. They explore largely through play, 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.

21st Century Capacities: Analyzing, Product Creation

Stage 1 - Desired Results

<p>ESTABLISHED GOALS/ STANDARDS</p> <p>MP 4 Model with mathematics. MP 7 Look for and make use of structure</p> <p>CCSS.MATH.CONTENT.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.¹</p> <p>CCSS.MATH.CONTENT.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 $5 = 4 + 1$).</p> <p>CCSS.MATH.CONTENT.K.MD.B.3 Classify objects into given categories; count the numbers of objects in each category and sort</p>	Transfer:		
	<p><i>Students will be able to independently use their learning in new situations to...</i></p> <ol style="list-style-type: none"> 1. Apply knowledge of shapes and their attributes to create a product. (Product Creation) 2. Examine, identify, compare and sort two-dimensional and three-dimensional shapes (Analyzing) 		
	Meaning:		
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding: 5px;"> <p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Shapes can be named, described, sorted, and compared by a variety of attributes. 2. Shapes exist everywhere and help to describe our world. 3. Some attributes help to define the geometry of a shape. </td> <td style="width: 50%; padding: 5px;"> <p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. What are ways to sort, identify, and describe objects? B. What are the attributes of this shape? How are they alike and different to another shape? C. How do shapes help me explain the world around me? </td> </tr> </table>	<p>UNDERSTANDINGS: <i>Students will understand that:</i></p> <ol style="list-style-type: none"> 1. Shapes can be named, described, sorted, and compared by a variety of attributes. 2. Shapes exist everywhere and help to describe our world. 3. Some attributes help to define the geometry of a shape. 	<p>ESSENTIAL QUESTIONS: <i>Students will explore & address these recurring questions:</i></p> <ol style="list-style-type: none"> A. What are ways to sort, identify, and describe objects? B. What are the attributes of this shape? How are they alike and different to another shape? C. How do shapes help me explain the world around me?
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<p>the categories by count.¹</p> <p>CCSS.MATH.CONTENT.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 <i>above</i>, <i>below</i>, <i>beside</i>, <i>in front of</i>, <i>behind</i>, and <i>next to</i>.</p> <p>CCSS.MATH.CONTENT.K.G.A.2 Correctly name shapes regardless of their orientations or overall size.</p> <p>CCSS.MATH.CONTENT.K.G.A.3 Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").</p> <p>CCSS.MATH.CONTENT.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).</p> <p>CCSS.MATH.CONTENT.K.G.B.5 Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.</p> <p>CCSS.MATH.CONTENT.K.G.B.6 Compose simple shapes to form larger shapes.</p>	<p>of orientation or size.</p> <ol style="list-style-type: none"> 2. How to compare various two- dimensional shapes. 3. Defining vs. non-defining attributes 4. How to describe, compare and locate shapes in their environment. 5. How to compare two-dimensional to three-dimensional shapes. 6. Vocabulary: add(ition), attribute, circle, compare, cone, color, cube, curved, cylinder, edge, flat, graph, greater than, hexagon, least, less/less than, most, more, one, pyramid, rectangle, rectangular prism, rhombus, round, shape, side, size, solid, sort, sphere, square, straight, surface, trapezoid, three-dimensional shape (3-D), trapezoid, triangle, triangular prism, two-dimensional shape (2-D), vertex or corner. 	<p>rectangles, triangles, rhombus, trapezoid, and hexagon.</p> <ol style="list-style-type: none"> 2. Identifying shapes as two-dimensional or three-dimensional. 3. Drawing circles, squares, rectangles and triangles. 4. Sorting and describing attributes of two-dimensional shapes and three-dimensional shapes.
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