

Geometry: Grade 6

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to reason with geometric principles by constructing and deconstructing one-, two-, and three- dimensional figures. - Students will demonstrate the ability to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> 6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems. 6.G.A.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. 6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems. 6.G.A.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. 6.NS.C.6 Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. - Understand signs of numbers in ordered pairs as indicating	Transfer	
	<i>Students will be able to independently use their learning to analyze situations, determine which geometric formulas to use, and apply them to solve a problem.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> geometry and spatial sense offer ways to envision, to interpret and to reflect on the world around us.	ESSENTIAL QUESTIONS Does one shape have more potential than another?
	Acquisition	
	<i>Students will know...</i> - that a net is the two dimensional representation of a three dimensional object. - that area, volume and surface area are measurements that can be used to solve problems. - that number line graphing skills can be aligned to graphing on a coordinate plane. - that coordinates exist and can be graphed on all four quadrants of the coordinate plane. - what makes each of the four quadrants unique. - the relationship that exists between ordered pairs which differ only by signs. - that the coordinate plane can be used to model problems. <u>vocabulary:</u> compose, surface area, decompose, quadrant, reflection	<i>Students will be skilled at...</i> - finding the area of right triangles, rectangles, and polygons composed of rectangles and right triangles. - finding the volume of right rectangular prisms. - representing three dimensional figures using nets. - calculating the surface area of three-dimensional figures with rectangular or triangular faces. - graphing rational coordinates in all four quadrants of the coordinate plane. - drawing polygons in the coordinate plane when given coordinates. - identifying reflections on the coordinate plane and their coordinates. - finding distances between points on the coordinate plane when the points have a common x or y value. - graphing in the coordinate plane to solve a problem.

locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. - o Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. • 6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second. • MP1 Make sense of problems and persevere in solving them. • MP2 Reason abstractly and quantitatively. • MP3 Construct viable arguments and critique the reasoning of others. • MP5 Use appropriate tools strategically. • MP7 Look for and make use of structure. • MP8 Look for and express regularity in repeated reasoning.		
Content Area Literacy Standards		21st Century Skills
• RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually.		• <i>work creatively with others</i> • <i>reason effectively</i> • <i>communicate clearly</i> • <i>use systems thinking</i> • <i>make judgments and decisions</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan
<i>Summary of Key Learning Events and Instruction</i>

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
• 1.OA.1 Use	• 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	