

**Content Standard A5
Eighth Grade Level
Geometry**

Students understand mathematical facts, concepts, principles, and theories. They construct, draw, measure, transform, compare, visualize, classify, and analyze the relationships among geometric figures.

State Mathematics Performance Standards 6 th -8 th	KGBSD Performance Standards	State Grade Level Expectations (GLE's)
<p>M5.3.1 Identify, classify, compare, and sketch regular and irregular polygons.</p> <p>M5.3.2 Model, identify, draw, and describe 3-dimensional figures including tetrahedrons, dodecahedrons, triangular prisms, and rectangular prisms.</p> <p>M5.3.3 Apply the properties of equality and proportionality to solve problems involving congruent or similar shapes.</p> <p>M5.3.4 Estimate and determine volume and surface areas of solid figures using manipulatives and formulas; estimate and find circumferences and areas of circles.</p> <p>M5.3.5 Draw and describe the results of transformations including translations (slides), rotations (turns), reflections (flips), and dilations (shrinking or enlarging).</p>	<p>1.1 Identify, compare, classify, and sketch regular and irregular polygons and circles</p> <p>2.1 Model, identify, draw, and describe 3-dimensional figures including tetrahedrons, dodecahedrons, triangular prisms, and rectangular prisms</p> <p>3.1 Apply the properties of equality and proportionality to solve problems involving congruent or similar shapes</p> <p>4.1 Estimate and calculate volume and surface areas of solid figures and circumference and areas of circles</p> <p>5.1 Draw and describe the results of transformations including translations, rotations, reflections, and dilations</p>	<p><u>Geometry: Geometric Relationships</u> The student demonstrates an understanding of geometric relationships by</p> <p>[8] G-1 [using the attributes and properties of regular polygons to <u>sketch regular or irregular polygons L</u>] (M5.3.1)</p> <p>[8] G-2 using the attributes and properties of prisms (vertices length and alignment of edges, shape and number of bases, and shape of faces) to <u>identify and describe cylinders and cones</u> (M5.3.2)</p> <p>[8] G-3 using two-dimensional nets to create three-dimensional objects (prisms and cylinders) (M5.3.2)</p> <p><u>Geometry: Transformation of Shapes</u> The student demonstrates conceptual understanding of similarity, congruence, symmetry, or transformations of shapes by</p> <p>[8] G-4 using proportionality to solve real-world problems involving similar shapes (<u>e.g., two real-world objects casting shadows</u>) (M5.3.3)</p> <p>[8] G-5 identifying the results of applying transformations (translations, rotations, reflections, dilations) to figures on a <u>coordinate plane</u> (M5.3.5)</p> <p><u>Geometry: Perimeter, Area, and Volume</u> The student solves problems (including real-world situations) by</p> <p>[8] G-6 determining the volume of right triangular prisms or cylinders (M5.3.4)</p>

**Content Standard A5
Eighth Grade Level
Geometry**

Students understand mathematical facts, concepts, principles, and theories. They construct, draw, measure, transform, compare, visualize, classify, and analyze the relationships among geometric figures.

State Mathematics Performance Standards 6 th -8 th	KGBSD Performance Standards	State Grade Level Expectations (GLE's)
<p>M5.3.6 Use coordinate geometry to represent and interpret relationships defined by equations and formulas including distance and midpoint.</p> <p>M5.3.7 Draw, measure, and construct geometric figures including perpendicular bisectors, polygons with given dimensions and angles, circles with given dimensions, perpendicular and parallel lines.</p>	<p>6.1 Use coordinate geometry to represent and interpret relationships defined by equations and formulas including distance and midpoint</p> <p>7.1 Draw, measure, and construct geometric figures including perpendicular bisectors, polygons with given dimensions and angles, circles with given dimensions, perpendicular and parallel lines</p>	<p>[8] G-7 determining the surface area of <u>cylinders or triangular prisms</u> (M5.3.4)</p> <p>[8] G-8 determining the circumference <u>and area</u> of a circle (M5.3.4)</p> <p><u>Geometry: Position and Direction</u> The student demonstrates understanding of position and direction by</p> <p>[8] G-9 graphing relationships of variables on a coordinate plane (e.g., length/width, area/diameter, cost/pound) (M5.3.6)</p> <p><u>Geometry: Construction</u> The student demonstrates a conceptual understanding of geometric drawings or constructions by</p> <p>[8] G-10 [drawing, measuring, or <u>constructing geometric figures</u> (polygons, perpendicular bisectors, or perpendicular or parallel lines) L] (M5.3.7)</p>