

K-12 MAJOR STRAND GLE's ACROSS GRADE LEVELS

Scope & Sequence

Revised May 4, 2009

Geometric & Spatial Relationships

Transformations

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
Use manipulatives to recognize from perspective and orientations models of slides and turns	Use manipulatives to model flips, slides and turns	Use manipulatives to model flips, slides, and turns	Recognize model and determine congruency through geometric slide, flips, and turns	Describe the results of transforming shapes Predict the results of sliding/ translating, flipping/ reflecting, or turning/ rotating around the center point of a polygon	Predict, draw, and describe the results of sliding/ translating, flipping/ reflecting, or turning/ rotating around the center point of a polygon	Describe the transformation from 2 given shapes using the terms reflection/flip, rotation/turn, and translation/ slide.	Using similar polygons describe the relationship between corresponding sides, angles, and perimeter	Perform transformations such as translations, reflections, and rotations	Write & solve proportions from similar figures		Perform graph transformation on functions
							Describe the relationship between a scale factor and the perimeter of an image that has been shrunk or stretched	Find the relationships between area and scale factor after dilation			

Coordinate Geometry

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
Describe, name, and interpret relative positions in space (above, below, front, behind)	Describe, name and interpret positions in space (left, right)	Identify locations with simple relationships on a map, coordinate system using common language and geometric vocab.	Identify, describe and name locations using common language and geometric vocabulary (forward, back, left, right, north, south, east, west)	Identify, describe and name locations and movement using common language and geometric vocabulary (forward, back, left, right, north, south, east, west)	Use coordinate systems to specify locations, describe paths, and find distance between points on vertical and horizontal lines	Use a coordinate grid to construct shapes	On a coordinate plane, according to their properties, construct and identify geometric shapes Use graphics to represent and solve a problems	Use coordinate geometry to analyze properties of right triangles and quadrilaterals Draw/use visual models to solve problems		Make conjectures and solve problems using coordinate geometry Use and apply constructions in the coordinate plane to represent transformations or objects (reflecting, translations, dilations, etc.	

2D & 3D Shapes

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
Identify, describe & compare the attributes of 2 and 3 dimensional shapes using physical models (circle, rhombus, rectangular prism, cylinder, pyramid) that represent shapes in the environment. Explore composing and decomposing 2-D shapes	Identify, name, describe and compare attributes of 2/3-D shapes using physical models (circle, rectangle, trapezoid, triangle, rhombus, sphere, rectangular prism, cylinder, pyramid) Use models to compose & decompose 2-D shapes	Describe attributes and parts of 2/3-D shapes (circle, triangle, trapezoid, rectangle, rhombus, sphere, rectangular prism, cylinder, pyramid) Recognize and model 3-D representations	Identify, describe, compare, and analyze by describing attributes of 2/3-D shapes (circle, rhombus, rectangle, trapezoid, triangle) Compose and decompose 2-D shapes and predict the results of putting together or taking apart 2-3-D shapes	Name and identify properties of 1/2/3-D shapes and describe the attributes of 2/3-D shapes using the appropriate vocabulary (rectangular prism, cylinder, pyramid, sphere, cone, parallelism, perpendicularity) Describe the results of subdividing, combining shapes. Given the picture of prism, identify the shapes of the faces	Analyze and classify 2/3-D shapes by describing the attributes. Predict and justify the results of subdividing, combining, and transforming shapes. Given a net of a prism or cylinder, identify the 3-D shape	Use spatial visualization to identify isometric representations of mat plans.	Identify the 2-D cross-section of a 3-D shape Use spatial visualization to identify various 2D views of isometric drawings	Describe, classify and define 2-D and 3-D objects Create isometric drawings from a mat plan (foundational drawings)	Use geometric models to solve problems	Use vertex-edge graphs and networks to find an optimal solution Recognize representations of 3-D geometric objects from different perspectives Use geometric models to solve problems	Use geometric models to solve problems

Geometric Properties

K	1	2	3	4	5	6	7	8	ALG	GEO	Adv. ALG
	Recognize shapes that have symmetry	Create shapes that have symmetry	Recognize, identify, and create lines of symmetry in polygons	Create a figure with multiple lines of symmetry and identify the lines of symmetry	Identify polygons and designs with rotational symmetry	Identify similar and congruent shapes, using corresponding angles and side lengths. Create polygons and designs with rotational symmetry.	Determine all line of symmetry for a polygon Identify and justify unit of measure for volume.	Use Pythagorean theory to calculate the lengths of unknown sides Identify the number of rotational symmetries of regular polygons	Solve problems based on angle relationships	Support geometric arguments w/ inductive and deductive reasoning Symmetries of 2/3-D objects	Use right triangle trigonometry to determine lengths