



National Center and State Collaborative

Mathematics Instructional Families – Geometry

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January 2013

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View of Learning Targets and Families across Grades

View of Learning Targets, Families, and Access Points by Grade-band

Overview of Access Points: Geometry

(K-4) Elementary School Learning Targets

Recognize that two-and three-dimensional shapes have particular attributes:

- Describe and compare objects and figures based on reasoning and the properties and attributes of the shapes;
- Compose, decompose, and draw figures based on spatial reasoning and the properties and attributes of the shapes;
- Apply concepts of symmetry.

Recognizing, Describing, Naming and Classifying		Constructing/Building		Geometric Problems		Transforming and Graphing			
K		Grade 1		Grade 2		Grade 3		Grade 4	
MAFS.K.G.1.AP.2a Recognize two-dimensional shapes (e.g., circle, square, triangle, rectangle), regardless of orientation or size		MAFS.1.G.1.AP.1a Distinguish two-dimensional shapes based upon their defining attributes (i.e., edges, vertices, and points).		MAFS.2.G.1.AP.1a Identify two-dimensional shapes, such as rhombuses, pentagons, hexagons, octagons, and ovals, as well as equilateral, isosceles, and scalene triangles.		MAFS.3.G.1.AP.1a Identify the attributes of quadrilaterals.		MAFS.4.G.1.AP.1a Identify a point, line and line segment and rays in two-dimensional figures.	
MAFS.K.G.1.AP.1a Use spatial language (e.g., above, below) to describe two-dimensional shapes.		MAFS.1.G.1.AP.3a Partition circles and rectangles into two and four equal parts.		MAFS.2.G.1.AP.1b Distinguish two- or three-dimensional shapes based upon their attributes (i.e., number of sides, equal or different lengths of sides, number of faces and number of corners).		MAFS.3.G.1.AP.2a Partition a rectangle into equal parts with equal area.		MAFS.4.G.1.AP.1b Identify perpendicular and parallel lines in a two-dimensional figure.	
MAFS.K.G.2.AP.6a Compose a larger shape from smaller shapes.				MAFS.2.G.1.AP.2a Count the squares that fill a rectangle drawn on graph paper.				MAFS.4.G.1.AP.1c Identify an angle in a two-dimensional figure.	
				MAFS.2.G.1.AP.1c Draw two-dimensional shapes with specific attributes.				MAFS.4.G.1.AP.2a Identify and sort objects based on parallelism, perpendicularity, and angle type.	
				MAFS.2.G.1.AP.3a Partition circles and rectangles into two, three, and four equal parts.				MAFS.4.G.1.AP.3a Identify figures that have a line of symmetry.	
				MAFS.2.G.1.AP.3b Label a partitioned shape (e.g., one whole rectangle was separated into two halves; one whole circle was separated into three thirds).					

Overview of Access Points: Geometry

(5-8) Middle School Learning Targets

Apply reasoning using properties of two- and three-dimensional shapes to analyze, represent, and model geometric relationships:

- Classify objects based on attributes and properties and solve problems using geometric relationships and properties;
- Decompose figures into new figures and construct figures with given conditions;
- Apply concepts of parallel and perpendicular.

Recognizing, Describing, Naming and Classifying		Constructing/Establishing a Figure	Geometric Problems	Transforming and Graphing
Grade 5	Grade 6	Grade 7	Grade 8	
MAFS.5.G.2.AP.3a Recognize properties of simple plane figures using polygon-shaped manipulatives.	MAFS.6.G.1.AP.1c Find the area of quadrilaterals using models.	MAFS.7.G.2.AP.6a Add the area of each face of a prism to find the surface area of three-dimensional objects.	MAFS.8.G.1.AP.4a Recognize congruent and similar figures.	
MAFS.5.G.2.AP.4a Use polygon-shaped manipulatives to classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.	MAFS.6.G.1.AP.1a Compose rectangles to find areas of right triangles using graph paper.	MAFS.7.G.2.AP.6b Solve one-step, real-world measurement problems involving area, volume or surface area of two- and three-dimensional objects.	MAFS.8.G.1.AP.5a Use angle relationships to find the value of a missing angle.	
MAFS.5.G.1.AP.1a Locate the x- and y-axis on a coordinate plane.	MAFS.6.G.1.AP.3a Draw polygons on a coordinate plane given the coordinates of the vertices.		MAFS.8.G.2.AP.7a Find the hypotenuse of a two-dimensional right triangle using the Pythagorean theorem.	
MAFS.5.G.1.AP.1b Locate points on a coordinate plane.	MAFS.6.G.1.AP.3b Use coordinates to find the side lengths of polygons drawn in quadrant I of a coordinate plane.		MAFS.8.G.1.AP.3b Given two figures on a coordinate plane, identify if the image is dilated, translated, rotated, or reflected.	
MAFS.5.G.1.AP.1c Graph ordered pairs (coordinates).				

Overview of Access Points: Geometry

(9-12) High School Learning Targets

Explain solutions using geometric attributes and relationships in diverse contexts:

- *Extend understanding of congruence and similarity working with complex figures and situations;*
- *Solve problems involving quadrilaterals and triangles;*
- *Perform geometric constructions and use informal proofs to describe relationships and transformations.*

Recognizing, Describing, Naming and Classifying

Constructing/Building

Transforming and Graphing

HS

MAFS.912.G-CO.2.AP.7a Use definitions to demonstrate congruency and similarity in figures.

MAFS.912.G-SRT.1.AP.2a Determine if two figures are similar.

MAFS.912.G-SRT.1.AP.2b Given two figures, determine whether they are similar and explain their similarity based on the equality of corresponding angles and the proportionality of corresponding sides.

MAFS.912.G-CO.4.AP.12a Copy a segment.

MAFS.912.G-CO.4.AP.12b Copy an angle.

MAFS.912.G-CO.4.AP.12c Bisect a segment.

MAFS.912.G-CO.4.AP.12d Bisect an angle.

MAFS.912.G-CO.4.AP.12e Construct perpendicular lines, including the perpendicular bisector of a line segment.

MAFS.912.G-CO.4.AP.12f Construct a line parallel to a given line through a point not on the line.

MAFS.912.G-CO.1.AP.3a Describe the rotations and reflections of a rectangle, parallelogram, trapezoid, or regular polygon that maps each figure onto itself.

View by Instructional Families and Florida Standard Domains

Instructional Families: Geometry

Florida Standard Domain Name: Geometry

Recognizing, Describing, Naming and Classifying	Constructing - Building	Constructing - Establishing a Figure	Geometric Problems	Transforming and Graphing
MAFS.K.G.1.AP.2a Recognize two-dimensional shapes (e.g., circle, square, triangle, rectangle), regardless of orientation or size	MAFS.K.G.2.AP.6a Compose a larger shape from smaller shapes.	MAFS.8.G.1.AP.5a Use angle relationships to find the value of a missing angle.	MAFS.1.G.1.AP.3a Partition circles and rectangles into two and four equal parts.	MAFS.4.G.1.AP.3a Identify figures that have a line of symmetry.
MAFS.K.G.1.AP.1a Use spatial language (e.g., above, below) to describe two-dimensional shapes.	MAFS.2.G.1.AP.2a Count the squares that fill a rectangle drawn on graph paper.	MAFS.8.G.2.AP.7a Find the hypotenuse of a two-dimensional right triangle using the Pythagorean theorem.	MAFS.2.G.1.AP.3a Partition circles and rectangles into two, three, and four equal parts.	MAFS.5.G.1.AP.1a Locate the x- and y-axis on a coordinate plane.
MAFS.1.G.1.AP.1a Distinguish two-dimensional shapes based upon their defining attributes (i.e., edges, vertices, and points).	MAFS.2.G.1.AP.1c Draw two-dimensional shapes with specific attributes.	MAFS.912.G-CO.4.AP.12a Copy a segment.	MAFS.2.G.1.AP.3b Label a partitioned shape (e.g., one whole rectangle was separated into two halves; one whole circle was separated into three thirds).	MAFS.5.G.1.AP.1b Locate points on a coordinate plane.
MAFS.2.G.1.AP.1a Identify two-dimensional shapes, such as rhombuses, pentagons, hexagons, octagons, and ovals, as well as equilateral, isosceles, and scalene triangles.		MAFS.912.G-CO.4.AP.12b Copy an angle.	MAFS.3.G.1.AP.2a Partition a rectangle into equal parts with equal area.	MAFS.5.G.1.AP.1c Graph ordered pairs (coordinates).
MAFS.2.G.1.AP.1b Distinguish two- or three-dimensional shapes based upon their attributes (i.e., number of sides, equal or different lengths of sides, number of faces and number of corners).		MAFS.912.G-CO.4.AP.12c Bisect a segment.	MAFS.6.G.1.AP.1c Find the area of quadrilaterals using models.	MAFS.6.G.1.AP.3a Draw polygons on a coordinate plane given the coordinates of the vertices.
			MAFS.6.G.1.AP.1a Compose rectangles to find areas of right triangles using graph paper.	MAFS.6.G.1.AP.3b Use coordinates to find the side lengths of polygons drawn in quadrant I of a coordinate plane.
				MAFS.8.G.1.AP.3b Given two figures on a coordinate plane, identify if the image is dilated, translated, rotated, or reflected.
				MAFS.912.G-CO.1.AP.3a Describe the rotations and reflections of a rectangle, parallelogram, trapezoid, or regular polygon that maps each figure onto itself.

Florida Standard Domain Name: Geometry

Recognizing, Describing, Naming and Classifying	Constructing - Building	Constructing - Establishing a Figure	Geometric Problems	Transforming and Graphing
MAFS.3.G.1.AP.1a Identify the attributes of quadrilaterals.		MAFS.912.G-CO.4.AP.12d Bisect an angle.	MAFS.7.G.2.AP.6a Add the area of each face of a prism to find the surface area of three-dimensional objects.	
MAFS.4.G.1.AP.1a Identify a point, line and line segment and rays in two-dimensional figures.		MAFS.912.G-CO.4.AP.12e Construct perpendicular lines, including the perpendicular bisector of a line segment.	MAFS.7.G.2.AP.6b Solve one-step, real-world measurement problems involving area, volume or surface area of two- and three-dimensional objects.	
MAFS.4.G.1.AP.1b Identify perpendicular and parallel lines in a two-dimensional figure.		MAFS.912.G-CO.4.AP.12f Construct a line parallel to a given line through a point not on the line.		
MAFS.4.G.1.AP.1c Identify an angle in a two-dimensional figure.				
MAFS.4.G.1.AP.2a Identify and sort objects based on parallelism, perpendicularity, and angle type.				
MAFS.5.G.2.AP.3a Recognize properties of simple plane figures using polygon-shaped manipulatives.				
MAFS.5.G.2.AP.4a Use polygon-shaped manipulatives to classify and organize two-dimensional figures into Venn diagrams based on the attributes of the figures.				
MAFS.8.G.1.AP.4a Recognize congruent and similar figures.				
MAFS.912.G-CO.2.AP.7a Use definitions to demonstrate congruency and similarity in figures.				
MAFS.912.G-SRT.1.AP.2a Determine if two figures are similar.				

Florida Standard Domain Name: Geometry

Recognizing, Describing, Naming and Classifying	Constructing - Building	Constructing - Establishing a Figure	Geometric Problems	Transforming and Graphing
MAFS.912.G-SRT.1.AP.2b Given two figures, determine whether they are similar and explain their similarity based on the equality of corresponding angles and the proportionality of corresponding sides.				