

Core Content

Cluster Title: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
Standard 4: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MASTERY Patterns of Reasoning:
<p>Conceptual:</p> <ul style="list-style-type: none"> Students will understand points, lines, line segments, rays, and angles. Students will understand right, acute, and obtuse angles. Students will understand perpendicular and parallel lines. Students will understand how all of these fit into two-dimensional figures. <p>Procedural:</p> <ul style="list-style-type: none"> Students can identify points, lines, line segments, and rays on a two-dimensional plane (paper). Students can identify angles (right, acute, and obtuse). Students can identify different types of lines (perpendicular and parallel). <p>Representational:</p> <ul style="list-style-type: none"> Students can use models, manipulatives, and pictures to create points, lines, line segments, rays and angles. Students can draw and label points, lines, line segments and rays in two-dimensional figures. Students can draw and label angles (right, acute, obtuse) in two-dimensional figures. Students can draw and label different types of lines (perpendicular and parallel) in two-dimensional figures.

Supports for Teachers

Critical Background Knowledge
<p>Conceptual:</p> <ul style="list-style-type: none"> Students will understand different types of two-dimensional figures (e.g., rhombus, square, rectangle). Students will understand characteristics and parts of angles. <p>Procedural:</p>

<p>Students can recognize two-dimensional figures (e.g., rhombus, square, rectangle). Students can identify number of angles in two-dimensional figure models. Students can identify number of sides in two-dimensional figure models.</p> <p>Representational: Draw two-dimensional figures (e.g., rhombus, square, rectangle).</p>		
<p>Academic Vocabulary and Notation</p> <p>point, line, line segment, ray, angle, obtuse, acute, right, parallel, perpendicular, two-dimensional, figure, \parallel, \perp, $<$</p>		
<p>Instructional Strategies Used</p> <p>Use a version of “Simon Says” with a symbol for each geometric term to play with the students. Start by making a line symbol (both arms extended outward, hands open), point symbol (a fist), and ray symbol (a fist with left hand and right arm extend out, hand open). Practice symbols with students before playing.</p> <p>Call the different terms and students show the symbols. Teacher: Simon says <i>line</i>. [Students show symbol.] Teacher: Simon says <i>ray</i>. [Students show symbol.] Teacher: <i>Point</i>. [Students should stay with the ray symbol.] Continue playing and adding in new symbols for all of the terms.</p> <p>Build geometric shapes using straws and pipe cleaners.</p>		<p>Resources Used</p> <p>Free geometry software: http://nrich.maths.org/1335 http://nrich.maths.org/public/viewer.php?obj_id=312&part= http://www.geogebra.org/cms/</p>
<p>Assessment Tasks Used</p>		

<p>Skill-Based Task: Have students draw and identify each of the geometric terms.</p>	<p>Problem Task: Have students locate examples of each geometric term in the classroom, take pictures of the examples outside, or cut out pictures of examples from a magazine. Create a geometric collage using what students found.</p>
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