

## Core Content

<b>Cluster Title: Make geometric constructions.</b>
<b>Standard:</b> G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). <i>Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</i>
<b>Concepts and Skills to Master</b>
<ul style="list-style-type: none"> <li>Perform the following constructions using a variety of tools and methods: copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.</li> <li>Explain why these constructions result in the desired objects.</li> </ul>

## Supports for Teachers

<b>Critical Background Knowledge</b>	
<ul style="list-style-type: none"> <li>Define the following terms: circle, bisector, perpendicular and parallel</li> </ul>	
<b>Academic Vocabulary</b>	
segment, angle, bisect, perpendicular, parallel, circle, construction	
<b>Suggested Instructional Strategies</b>	<b>Resources</b>
<ul style="list-style-type: none"> <li>Have students explore how to make a variety of constructions using different tools. Ask students to justify how they know their method results in the desired construction.</li> <li>Discuss the underlying principles that different tools rely on to produce desired constructions. (e.g. compass: circles, mira: reflections)</li> </ul>	<a href="http://www.mathopenref.com/tocs/constructionstoc.html">http://www.mathopenref.com/tocs/constructionstoc.html</a> <a href="http://whistleralley.com/construction/reference.htm">http://whistleralley.com/construction/reference.htm</a>
<b>Sample Formative Assessment Tasks</b>	
<b>Skill-based Task</b> Construct a perpendicular bisector of the given line segment. 	<b>Problem Task</b> Given two quadrilaterals that are reflections of each other, find the line of that reflection.

## Core Content

<b>Cluster Title: Make geometric constructions.</b>
<b>Standard:</b> G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.
<b>Concepts and Skills to Master</b>
<ul style="list-style-type: none"> <li>Construct an equilateral triangle, a square, and a regular hexagon.</li> <li>Construct an equilateral triangle, a square, and a regular hexagon each inscribed in a circle.</li> </ul>

## Supports for Teachers

<b>Critical Background Knowledge</b>	
<ul style="list-style-type: none"> <li>Understand the properties of regular polygons.</li> <li>Construct congruent segments and perpendicular lines.</li> </ul>	
<b>Academic Vocabulary</b>	
equilateral triangle, square, regular hexagon, inscribed, construction	
<b>Suggested Instructional Strategies</b>	<b>Resources</b>
Allow students to explore possible methods for constructing equilateral triangles, squares, and hexagons, and methods for constructing each inscribed in a circle.	<a href="http://www.mathopenref.com/tocs/constructiontoc.html">http://www.mathopenref.com/tocs/constructiontoc.html</a> <a href="http://whistleralley.com/construction/reference.htm">http://whistleralley.com/construction/reference.htm</a>
<b>Sample Formative Assessment Tasks</b>	
<b>Skill-based Task</b> Construct an equilateral triangle inscribed in a circle using a compass and straight-edge.	<b>Problem Task</b> Find two ways to construct a hexagon inscribed in circle as shown.
	