Core Content

**Cluster Title:** Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

**Standard 2:** Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

**MASTERY Patterns of Reasoning:**

**Conceptual:**
- Students will understand how to classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines.
- Students will understand how to classify two-dimensional figures based on the presence or absence of angles of a specified size.
- Students will understand how right triangles are different from other triangles.
- Students will understand why right triangles fit into their own category.

**Procedural:**
- Students can identify presence or absence of parallel and perpendicular lines.
- Students can identify presence or absence of acute and obtuse angles.
- Students can identify presence of right angles separate from acute and obtuse angles.
- Students can identify and classify right triangles.

**Representational:**
- Students can use models, manipulatives and pictures of two-dimensional figures to identify presence or absence of parallel and perpendicular lines, and acute, obtuse, and right angles.

**Supports for Teachers**

**Critical Background Knowledge**

**Conceptual:**
- Students will understand the definition of a two-dimensional figure.
- Students will understand the definitions of parallel and perpendicular lines.
- Students will understand the difference between parallel and perpendicular lines.

Code: 4.G.2
Students will understand the definitions of lines and angles.
Students will understand the definitions of a triangle.
Students will understand the difference between acute, obtuse, and right angles.

**Procedural:**
- Students can identify parallel and perpendicular lines in two-dimensional figures.
- Students can identify acute, obtuse, and right angles in two-dimensional figures.
- Students can identify and classify two-dimensional figures.
- Students can identify right triangles.

**Representational:**
- Students can use models, objects, and pictures to represent geometric terms.

**Academic Vocabulary and Notation**
classify, right triangle, category, parallel line, perpendicular line, acute angle, obtuse angle, right angle, presence, absence, two-dimensional figure

**Instructional Strategies Used**
Give students several pictures of various two-dimensional figures. Practice finding figures by giving students criteria for classifications (i.e., parallel lines, perpendicular lines, acute angles, obtuse angles, and right angles). Finally, have the students identify the right triangles and classify these into a separate group.

**Resources Used**
http://www.uen.org/Lessonplan/preview.cgi?LPid=11235
http://illuminations.nctm.org/LessonDetail.aspx?ID=L270

**Assessment Tasks Used**

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<tr>
<th>Skill-Based Task:</th>
<th>Problem Task:</th>
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<tr>
<td>Give students different two-dimensional figures and have them classify them and justify their classification.</td>
<td>Create an art project using all of the new geometric classification terms.</td>
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