

## Mathematics: Geometry

<b>1.G.1</b>	<p><b>Cluster Heading:</b> 1.G.A Reason with shapes and attributes.</p> <p><b>Content Standard(s):</b> 1.G.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.</p> <p><b>Practice Standard(s):</b> MP1 Make sense of problems and persevere in solving them, MP7 Look for and make use of structure.</p>	
<b>Problem/Task Suggestions</b>		<b>Formative Assessment Suggestions</b>
<p><b>Attribute Sort</b>            Pairs of students are given a variety of shapes and are asked to sort them into groups according to their attributes, similar properties or characteristics. Each pair will describe the rule they used to sort the shapes. This task is designed as a pre-assessment for student knowledge of shapes and their attributes. Teachers will need to address the difference in defining attributes and non-defining attributes (this can be done during a discussion following the students' first sort).</p> <p><b>Differentiation Supports</b>            Students sort and compare pattern blocks. Then they can create a rule used to sort. Other students can try to guess the rule by looking at the sorted pattern blocks.</p> <p><b>Extensions</b></p> <ul style="list-style-type: none"> <li>Working in pairs student A will choose a shape and hold it behind him/her. Student A will have student B ask “yes” or “no” questions regarding the shape (e.g., Does it have 3 sides? Does it have 3 vertices? Is it a triangle?). Pairs will take turns guessing and holding the shape.</li> <li>Students create “What Am I?” cards. Students will write defining attributes of shapes on a card. These cards will be passed around the class so other students will try guess what shape is being defined on the card. Students could find shapes in magazines, cut them out, and attach them to the back of the card.</li> </ul>		<p><b>Does the Student Know</b></p> <ul style="list-style-type: none"> <li>How shapes are alike and different?</li> <li>How to organize their shapes? (explanation)</li> <li>Another way to organize their shapes? (explanation)</li> <li>What is meant by shape attributes?</li> </ul> <p><b>Questions to Guide Student Thinking</b></p> <ul style="list-style-type: none"> <li>Can you tell me how you sorted your shapes?</li> <li>What makes one shape different from the other?</li> <li>What shapes do you see in the room?</li> </ul> <p><b>Misconceptions</b>            Students may</p> <ul style="list-style-type: none"> <li>Not understand if a shape has been rotated or flipped it is still the same shape (e.g., a square that has been rotated 45 degrees is still a square).</li> <li>Not understand the size of a shape does not change the name of the shape.</li> </ul> <p><b>Vocabulary Considerations</b>            Shape, square, triangle, rectangle, circle, attribute, sort</p>
<p><b>Source:</b> <a href="https://www.georgiastandards.org/Common-Core/Common%20Core%20Frameworks/CCGPS_Math_1_Unit3FrameworkSE.pdf">https://www.georgiastandards.org/Common-Core/Common%20Core%20Frameworks/CCGPS_Math_1_Unit3FrameworkSE.pdf</a></p>		