

<p><b>2(8) Geometry and measurement.</b> The student applies mathematical process standards to analyze attributes of two-dimensional shapes and three-dimensional solids to develop generalizations about their properties.</p>	<p><b>2(8)(B)</b> The student is expected to classify and sort three-dimensional solids including spheres, cones, cylinders, rectangular prisms (including cubes as special rectangular prisms), and triangular prisms, based on attributes using formal geometric language.</p>
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>• Three-dimensional solids</li> </ul>	
<p><b>Procedure:</b> Place solids on table. Ask the question(s) below based on the three-dimensional solids displayed.</p> <ol style="list-style-type: none"> <li><b>1. Find the solid that has zero vertices and zero edges. What is the name of this solid?</b></li> <li><b>2. A polyhedron is a solid that has all polygon faces. Which solids would belong in this group? Identify and describe the solids that are NOT in this group.</b></li> <li><b>3. Sort the solids according to their attributes. Describe how you sorted the solids.</b></li> </ol>	
<p><b>Check Student’s Responses:</b></p>	
<ol style="list-style-type: none"> <li>The student identified the sphere:             <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct                      <input type="checkbox"/> Incorrect</li> </ul> </li> <li>The student identified the polyhedrons:             <ul style="list-style-type: none"> <li><input type="checkbox"/> Correct                      <input type="checkbox"/> Incorrect</li> </ul> </li> <li>The student identified and described the other solids as: _____</li> <li>The student sorted the shapes by: _____             <ul style="list-style-type: none"> <li><input type="checkbox"/> Correctly sorted the shapes                      <input type="checkbox"/> Incorrectly sorted the shapes</li> </ul> </li> <li>The student described the group(s) as: _____</li> </ol>	
<p><b>Notes:</b></p>	

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**Possible interpretations, issues to follow up on, and implications for teaching**

**What did you observe?**

- The student **classified and/or sorted the solids correctly**. It might be beneficial to see if this student is able to classify solids using other geometric language by asking questions such as, “Which of these solids are prisms?”
- The student **incorrectly classified and/or sorted the solids**. The student may need additional support in understanding vocabulary such as vertices, faces, edges, and a reminder of a definition of a polygon.

*A teaching strategy might include reviewing vocabulary followed by additional activities such as:*

- *Providing opportunities for the student to identify solids based on formal language such as:*
  - *Find all of the solids with 8 vertices.*
  - *Find all of the solids with a curved surface.*
- *Prompt the student to draw a square. Explain that a square is a polygon with four equal sides. Prompt the student to determine which solid has only square faces (a cube). Next, prompt the student to find another solid they think might be a polyhedron. Prompt the student to describe each of the faces of the solid and determine whether or not each face of the solid is a polygon. Assist the student in identifying the solid if necessary.*