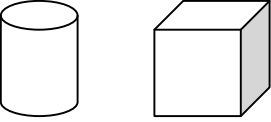


Lesson 14.1b Counting Faces, Vertices and Edges

<p>Objectives</p> <ul style="list-style-type: none"> Identify flat and curved faces on 3-dimensional shapes. Identify vertices and edges on 3-dimensional shapes. 	<p>California Standards</p> <p>MG 2.1: Describe and classify plane and solid geometrical shapes (e.g., circle, triangle, square, rectangle, sphere, pyramid, cube, rectangular prism) according to the number and shape of faces, edges and vertices.</p>										
<p>Materials</p> <ul style="list-style-type: none"> Cloth to use as blindfold Models of cubes, rectangular and triangular prisms, cylinders, cones, pyramids and spheres 	<p>Vocabulary/Phrases</p> <table border="0"> <tr> <td>Cone</td> <td>Cube</td> </tr> <tr> <td>Cylinder</td> <td>Edge</td> </tr> <tr> <td>Prism</td> <td>Pyramid</td> </tr> <tr> <td>Rectangular prism</td> <td>Sphere</td> </tr> <tr> <td>Vertex</td> <td></td> </tr> </table>	Cone	Cube	Cylinder	Edge	Prism	Pyramid	Rectangular prism	Sphere	Vertex	
Cone	Cube										
Cylinder	Edge										
Prism	Pyramid										
Rectangular prism	Sphere										
Vertex											

<p>Teaching Strategies</p>		
<p>Illustrate curved and flat faces</p>	<p>Show students a variety of 3-dimensional shapes, (including <u>cones</u>, <u>cubes</u>, <u>cylinders</u>, <u>prisms</u>, <u>pyramids</u>, <u>rectangular prisms</u> and <u>spheres</u>). Call on students to identify the shapes by name and the curved and/or flat faces on each. Ask them to tell you the number of faces that are curved and/or flat.</p>	
<p>Identify vertices and edges on solid shapes</p>	<p>Have students look at Task 2, Textbook p. 119. Point out a <u>vertex</u> and <u>edge</u> of a different object, such as <u>prism</u>. Ask students to count the vertices and edges on a variety of 3-dimensional shapes.</p>	<p>Textbook p. 119</p>
<p>Assess</p>	<p>Have students do Tasks 2-9, Textbook p. 119-121.</p>	<p>Textbook p. 119 2. 4, 6, 12 3. Yes 4. Faces are not the same. Textbook p. 120 5. 5 faces 6. 3, 0 7. 1 vertex 8. 1, 0 Textbook p. 121 9.(a) A, B (b) C, D, F, G, H (c) E (d) D</p>
<p>Activity</p>	<p>Divide students up into groups. Provide each group with a variety of 3-dimensional objects. Students take turns being blindfolded and trying to tell how many flat and curved faces there are on one of the objects. Ask students to identify the object based on the number of flat and curved faces it has.</p> <p>Next, ask students to take turns to identify the vertices and edges of an object while blindfolded. Have them count the number of each, and then identify the object.</p>	
<p>Practice</p>	<p>Workbook Exercise 2, p. 172-173</p>	