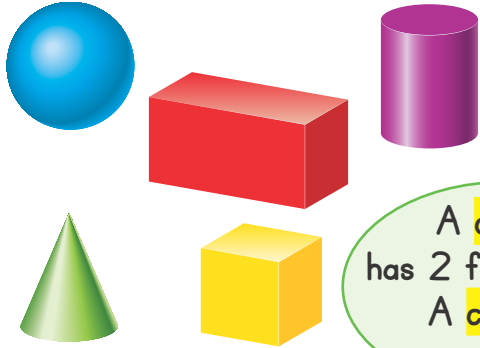
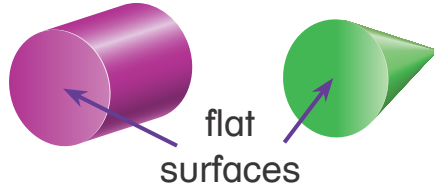


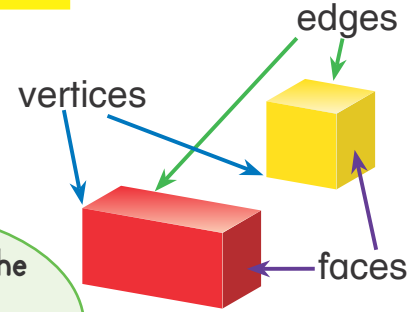
**Three-dimensional (3-D) shapes** can be grouped in different ways.



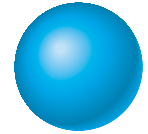
The **flat surfaces** of these shapes are circles.



These shapes have **edges** and vertices. Their flat surfaces are called **faces**.



A **sphere** has no flat surfaces, no edges, and no vertices.



A **cylinder** has 2 flat surfaces.  
A **cone** has only 1.



The faces of the **cube** and the **rectangular prism** are all rectangles.

**Convince Me!** Do 3-D shapes always have either faces, flat surfaces, or vertices? Explain.

☆ **Guided Practice** ☆




Write how many faces or flat surfaces and vertices each 3-D shape has.

|    | 3-D shape | Number of faces or flat surfaces | Number of vertices | Number of edges |
|----|-----------|----------------------------------|--------------------|-----------------|
| 1. |           | 6                                | 8                  | 12              |
| 2. |           |                                  |                    |                 |

Name \_\_\_\_\_

**Independent Practice**

Write how many faces or flat surfaces, vertices, and edges each object has.

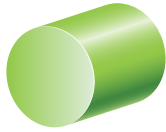
|    | Object  | Number of faces or flat surfaces | Number of vertices | Number of edges |
|----|---|----------------------------------|--------------------|-----------------|
| 3. |    |                                  |                    |                 |
| 4. |    |                                  |                    |                 |
| 5. |  |                                  |                    |                 |

6. **Higher Order Thinking** Lily has an object that looks like a 3-D shape. The object has 2 flat surfaces and 0 vertices.

Draw an object that Lily could have.

**Problem Solving** Solve each problem below.

7. This shape is a cone. Which shape below is also a cone? How do you know?



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8. **Reasoning** Nikki and Ben each buy 1 item from the store. Nikki's item has 4 more edges than vertices. Ben's item has the same number of flat surfaces and edges.

Draw a circle around Nikki's item.  
Draw a box around Ben's item.



9. **Higher Order Thinking** Draw and label a 3-D shape. Then write a sentence describing your 3-D shape.

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10.  **Assessment Practice** I have 6 faces. I have 8 vertices. Which 3-D shape could I be? Choose two that apply.

- sphere
- cube
- rectangular prism
- cylinder