

## Chapter 8 Volume and Surface Area of Solids

### Dear Family,

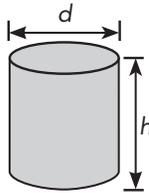
In this chapter, your student will learn how to find the volume and surface area of different solids. Some of the skills your student will practice are:

- identifying cylinders, cones, and spheres and their cross-sections
- finding the volume and surface area of cylinders, cones, and spheres
- solving real-world problems involving cylinders, pyramids, cones, spheres, and composite solids

### Activity

Understanding and applying formulas is a skill that students will use in many mathematics and science classes. You can help your student practice this skill with the following activity.

- Choose a cylindrical object such as an empty can.
- Use a ruler to measure the diameter ( $d$ ) and the height ( $h$ ) of the cylinder. Divide the diameter by 2 to find the radius ( $r$ ) of the cylinder.
- Find the volume of the cylinder, using the formula  $V = \pi r^2 h$ . Use 3.14 for  $\pi$ , and use a calculator if necessary.
- Discuss with your student the difference between the volume of the cylinder and its surface area. What type of units do you use for the volume, and how are they different from the units used for surface area?



### Vocabulary to Practice

A **cylinder** has a curved surface and two parallel bases that are circles. A **cone** has a circular base, a curved surface, and one vertex.

A **cross section** of a solid is formed by the intersections of a flat plane and the solid.

The **lateral surface** of a solid such as a pyramid or a cone is everything except the base of the solid.



### Online Resources

For additional Parent Resources [my.hrw.com](http://my.hrw.com)