

Understand Volume Concepts

Topic 10 Standards

5.MD.C.3a, 5.MD.C.3b, 5.MD.C.4, 5.MD.C.5a, 5.MD.C.5b, 5.MD.C.5c

See the front of the Student's Edition for complete standards.

Dear Family,

In this topic, your student is learning about volume. He or she will learn how to find the volume of a rectangular prism, then use that understanding to formulate a plan to find the volume of a solid figure that is the combination of two or more rectangular prisms. Your student will also use models to develop the formula for volume and to recognize a cube with a side length of one unit as a unit cube having one cubic unit of volume. This will give him or her the skills necessary to solve problems involving volume, the area of the base of a prism multiplied by the height of the prism.

Here is an activity you can do with your student.

Think Inside the Box

Materials: everyday examples of rectangular prisms, such as a tissue box, cereal box, jewelry box, or shoe box

Step 1 Have your child use estimation to compare the examples of the rectangular prisms, for example, by size, shape, length, width, and height.

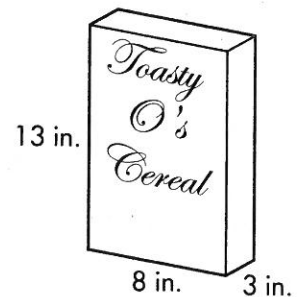
Step 2 Discuss volume as the number of unit cubes needed to fill a figure.

Step 3 Have your child use estimation to compare the volumes of the rectangular prisms. Ask questions such as: *Which box seems to have a greater volume than the tissue box? How might you order the boxes from least to greatest volume?*

Optional Work together to measure the dimensions of one of the rectangular prisms. Find its volume by using the formula for the volume of a rectangular prism.

Volume = (length \times width) \times height

For example, the volume of the cereal box pictured is 312 cubic inches because $V = (8 \times 3) \times 13 = 312$ cubic inches.



Observe Your Child

Focus on Mathematical Practice 5

Use appropriate tools strategically.

Help your child become proficient with Mathematical Practice 5. Before measuring, ask your child to decide what measurement tools would be best for measuring the containers or objects chosen and to explain his or her decision.