

## KEY CONCEPT OVERVIEW

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In Lessons 1 through 3, students explore the concept of volume by using cubes. They also apply their skills in real-world contexts.

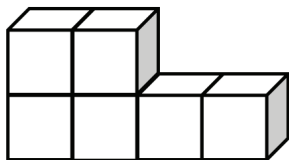
You can expect to see homework that asks your child to do the following:

- Find the **volume of a solid** by counting the cubes and by applying other strategies.
- Draw cubic units on **isometric dot paper**.
- Solve word problems involving volume.

## SAMPLE PROBLEM (From Lesson 1)

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The solid below is made up of 1 cm cubes. Find the total volume of the figure and write it in the chart below.



| Volume            | Explanation   |
|-------------------|---|
| 6 cm <sup>3</sup> | <i>I counted 2 cubes on the top and 4 cubes on the bottom. There are 6 total cubes. <math>2 + 4 = 6</math>. Since each cube is 1 cubic centimeter, the total volume of the figure is 6 cubic centimeters.</i> |

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at [GreatMinds.org](http://GreatMinds.org).

**HOW YOU CAN HELP AT HOME** 

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- Ask your child to define perimeter, **area**, and volume. Have him explain how the three terms are different and name the units used to measure perimeter, area, and volume. Then ask him to match the equations below with each term.
  - $2\text{ m} + 4\text{ m} + 2\text{ m} + 4\text{ m} = 12\text{ m}$   
This is perimeter, and it is measured in regular units (e.g., m, ft, yd).
  - $6\text{ m} \times 8\text{ m} = 48\text{ m}^2$   
This is area, and it is measured in square units (e.g.,  $\text{m}^2$ ,  $\text{ft}^2$ ,  $\text{yd}^2$ ).
  - $3\text{ m} \times 5\text{ m} \times 9\text{ m} = 135\text{ m}^3$   
This is volume, and it is measured in cubic units (e.g.,  $\text{m}^3$ ,  $\text{ft}^3$ ,  $\text{yd}^3$ ).
- Together, practice drawing cubic units on either centimeter grid paper or isometric dot paper.

**TERMS** 

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**Area:** The amount of space inside a two-dimensional shape. For example, in rectangles, Area = length  $\times$  width.

**Volume of a solid:** The amount of space inside a three-dimensional solid. For example, in rectangular prisms, Volume = length  $\times$  width  $\times$  height.

**MODELS** 

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**Isometric Dot Paper**