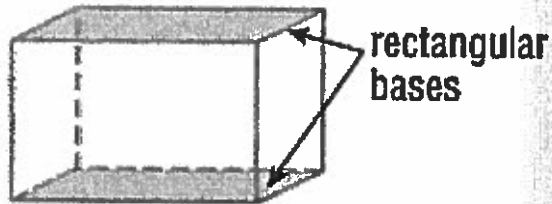
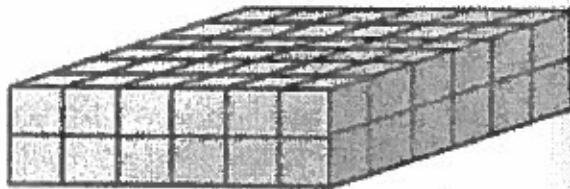


**Vocabulary**

- A three-dimensional figure has length, width, and height.
- A prism is a three-dimensional figure with two parallel bases that are congruent polygons.
- In a rectangular prism, the bases are congruent rectangles.



- Volume is the amount of space inside a three-dimensional figure. It is measured in cubic units, which can be written using abbreviations and an exponent of 3, such as units<sup>3</sup> or in<sup>3</sup>.

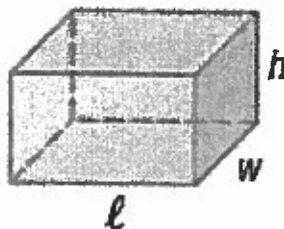
**Key Concepts: Rectangular Prism**

**Volume = length • width • height**

$$(V = l \cdot w \cdot h)$$

**Volume = area of the base • height**

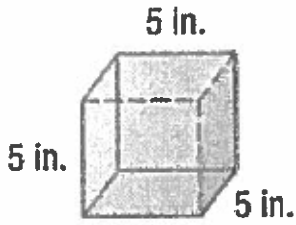
$$(V = B \cdot h)$$

**Model****Step:**

1. Write the formula.
2. Fill in the number.
3. Answer.

Key

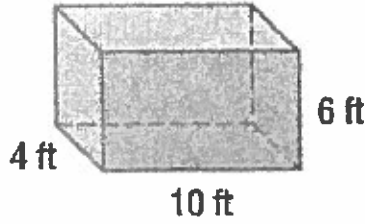
Guided Practice: Find the volume of the rectangular prisms.



$$V = l \cdot w \cdot h$$

$$V = 5 \cdot 5 \cdot 5$$

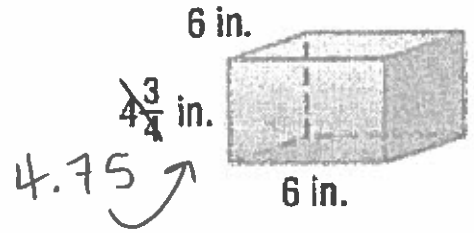
$$V = 125 \text{ in}^3$$



$$V = l \cdot w \cdot h$$

$$V = 4 \cdot 10 \cdot 6$$

$$V = 240 \text{ ft}^3$$



$$V = l \cdot w \cdot h$$

$$V = 6 \cdot 6 \cdot 4.75$$

$$V = 171 \text{ in}^3$$

4.) A rectangular kitchen sink is 25.25 inches long, 19.75 inches wide, and 10 inches deep. Find the amount of water that can be contained in the sink.

$$V = l \cdot w \cdot h$$

$$V = 25.25 \text{ in} \cdot 19.75 \text{ in} \cdot 10 \text{ in}$$

$$V = 4,986.875 \text{ in}^3$$

5.) Find the missing dimension of a rectangular prism with a volume of 126 cubic centimeters, a width of 4 centimeters, and a height of 2 cm.

(WORK backwards!)

$$V = l \cdot w \cdot h$$

$$126 = l \cdot 4 \cdot 2$$

$$8$$

$$126 = l \cdot 8$$

$$\div 8 \quad \div 8$$

$$15.75 \text{ cm} = l$$

Partner Talk

Find the volume of a rectangular prism with a length of 4cm, width of 5cm, and height of 2 cm.

$$V = l \cdot w \cdot h$$

$$V = 4 \text{ cm} \cdot 5 \text{ cm} \cdot 2 \text{ cm}$$

$$V = 40 \text{ cm}^3$$

Building on the Essential Question - Why can you use either the formula  $V = lwh$  or  $V = Bh$  to find the volume of a rectangular prism?

area of the rect. base  
( $l \cdot w$ )

Rate Yourself - Are you ready to move on?

