Name _____ Date _____ Period _____

Lesson 5-5

Reinforce Understanding

Determine the Volume of Rectangular Prisms

I can find the volume of a rectangular prism with whole-number edges using length × width × height.

Worked model

A storage box is 8 cm long, 6 cm wide, and 9 cm tall. Find its volume.

1. Name the three dimensions. l = 8 cm w = 6 cm h = 9 cm
2. Find the base area first — that is one layer of cubes. 8 × 6 = 48
3. Stack the layers by multiplying by the height. 48 × 9 = 432

Answer: The volume of the box is 432 cubic centimeters (432 cm^3).

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Find the volume of each rectangular prism.

Complete the table. Show how you found each value.

Length	Width	Height	Volume
5 in	3 in	4 in	
6 cm	6 cm	2 cm	
9 ft	2 ft	5 ft	

Show your work

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2. Put these steps in order for finding the volume of a box that is 8 in long, 5 in wide, and 3 in tall.

Write the name of the correct group on each line.

Groups:

- _____Identify: l = 8, w = 5, h = 3
- _____Write the formula: V = l × w × h
- _____Multiply: 8 × 5 = 40
- _____Multiply: 40 × 3 = 120
- _____Answer: V = 120 in^3

3. What is the volume of a rectangular prism with l = 7 in, w = 3 in, h = 4 in?

Circle the letter of the best answer. Show how you know.

A. 14 in^3
B. 42 in^3
C. 84 in^3
D. 84 in^2