

Lesson 5-5 • Group 2

Reinforce Understanding

5.5 Small Group • Group 2

I can find the volume of a rectangular prism with whole-number edges using length $\times$ width $\times$ height, explain why the method works, and use it on a problem I have not seen before.

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. $8 \times 6 = 48$
3. Stack the layers by multiplying by the height. $48 \times 9 = 432$

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. Complete the table. Find the missing dimension or volume for each time capsule.

Complete the table. Show how you found each value.

Capsule	Length	Width	Height	Volume
Capsule X	9 in	5 in	2 in	
Capsule Y	6 ft	4 ft		168 ft^3
Capsule Z	12 cm		5 cm	360 cm^3

Show your work

2. Each section holds how many cubic inches?

Use the model to solve. Show your work.

Show your work

Answer: _____

3. A shipping crate is 12 ft long, 3 ft wide, and 2 ft tall. How many 1-foot cubes exactly fill it?

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

- A. 17 cubes
- B. 36 cubes
- C. 72 cubes
- D. 144 cubes

Show your work
