LESSON MAKER PRO

Build Volume Power

Find the space inside rectangular prisms.

GRADE 5 · 5.MD.C.5b

CCSS.Math.Content.5.MD.C.5b "Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems."

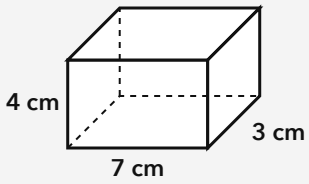
NAME _____ DATE _____

VOLUME RULES

Volume tells how much space is inside a rectangular prism. Multiply length × width × height, or multiply the area of the base by the height. Write volume in cubic units.

WORKED EXAMPLE

Find the volume of the rectangular prism shown.

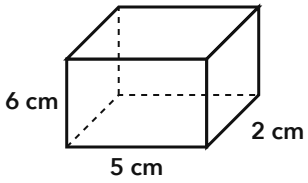


1. Find the base area: 7 × 3 = 21 square cm.
2. Multiply by the height: 21 × 4 = 84 cubic cm.

Answer: 84 cm^3

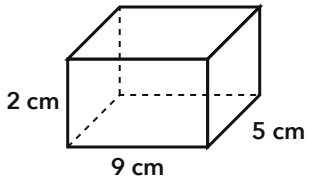
PRACTICE 6 problems

1 Find the volume of the rectangular prism: length 5 cm, width 2 cm and height 6 cm.



ANSWER _____

2 Find the volume of the rectangular prism: length 9 cm, width 5 cm and height 2 cm.



ANSWER _____

3 A rectangular prism has a base area of 24 square centimeters and a height of 5 cm. Find its volume.

ANSWER _____

4 Find the volume of a rectangular prism that is 10 cm long, 2 cm wide, and 8 cm high.

ANSWER _____

5 A box is 11 cm long, 5 cm wide, and 2 cm high. What is its volume?

ANSWER _____

6 The base of a rectangular prism has an area of 18 square centimeters. The prism is 6 cm high. Find its volume.

ANSWER _____

APPLY IT Show your work

1 A video game organizer is 12 cm long, 5 cm wide, and 2 cm high. What is the volume of the organizer?

WORK SPACE

ANSWER _____

2 A student builds a rectangular display stand for collectible cards. The stand is 14 cm long, 6 cm wide, and 5 cm high. What is its volume?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A rectangular prism has a volume of 360 cm^3. It is 9 cm long and 5 cm wide. What is its height? Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Build Volume Power

GRADE 5 · 5.MD.C.5b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the volume of the rectangular prism: length 5 cm, width 2 cm and height 6 cm.	**60 cm^3**
2	Find the volume of the rectangular prism: length 9 cm, width 5 cm and height 2 cm.	**90 cm^3**
3	A rectangular prism has a base area of 24 square centimeters and a height of 5 cm. Find its volume.	**120 cm^3**
4	Find the volume of a rectangular prism that is 10 cm long, 2 cm wide, and 8 cm high.	**160 cm^3**
5	A box is 11 cm long, 5 cm wide, and 2 cm high. What is its volume?	**110 cm^3**
6	The base of a rectangular prism has an area of 18 square centimeters. The prism is 6 cm high. Find its volume.	**108 cm^3**

PART 2 · APPLY IT

1. **120 cm^3** Multiply 12 × 5 to find a base area of 60 square cm. Then multiply 60 × 2 to get 120 cubic cm.
2. **420 cm^3** Multiply 14 × 6 to find a base area of 84 square cm. Then multiply 84 × 5 to get 420 cubic cm.

CHALLENGE

8 cm. The base area is 9 × 5 = 45 square cm, and 360 ÷ 45 = 8 cm.

Accept equivalent multiplication methods and correct cubic-unit notation. For the challenge, accept any explanation that finds a base area of 45 square cm and divides 360 by 45.