LESSON MAKER PRO

Volume Builder

Use layers and multiplication to measure space inside prisms.

GRADE 5 · MA.5.GR.3.2

MA.5.GR.3.2 "Find the volume of a right rectangular prism with whole-number side lengths using a visual model and a formula."

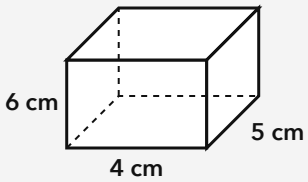
NAME _____ DATE _____

FIND VOLUME

A right rectangular prism has layers that are the same size. Find the area of one base, then multiply by the number of layers, or multiply length × width × height. Volume is measured in cubic units.

WORKED EXAMPLE

Find the volume of the right rectangular prism shown.

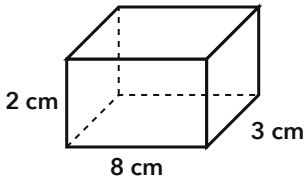


1. Find the base area: 4 cm × 5 cm = 20 square cm.
2. Multiply the base area by the height: 20 square cm × 6 cm = 120 cubic cm.

Answer: 120 cubic cm

PRACTICE 6 problems

1 Find the volume of the right rectangular prism shown.



ANSWER _____

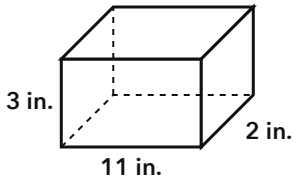
2 A right rectangular prism is 7 cm long, 9 cm wide, and 1 cm high. Find its volume.

ANSWER _____

3 Find the volume of a right rectangular prism with a length of 10 m, a width of 3 m, and a height of 2 m.

ANSWER _____

4 Find the volume of the right rectangular prism shown.



ANSWER _____

5 A right rectangular prism has side lengths of 12 ft, 1 ft, and 8 ft. Find its volume.

ANSWER _____

6 Prism A is 9 cm by 2 cm by 10 cm. Prism B is 8 cm by 7 cm by 3 cm. Which prism has the greater volume, and how many more cubic centimeters does it hold?

ANSWER _____

_____

APPLY IT Show your work

1 A game designer packs small game tokens in a rectangular box that is 9 cm long, 3 cm wide, and 2 cm high. What is the volume of the box?

WORK SPACE

ANSWER _____

2 A student makes a rectangular display case for mini figures. The case is 7 in. long, 8 in. wide, and 2 in. high. What volume is inside the case?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A right rectangular prism has a volume of 192 cubic cm. Its base is 8 cm long and 3 cm wide. What is the height? Explain how you found it.

WORK SPACE AND ANSWER

ANSWER KEY # Volume Builder

GRADE 5 · MA.5.GR.3.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the volume of the right rectangular prism shown.	**48 cubic cm**
2	A right rectangular prism is 7 cm long, 9 cm wide, and 1 cm high. Find its volume.	**63 cubic cm**
3	Find the volume of a right rectangular prism with a length of 10 m, a width of 3 m, and a height of 2 m.	**60 cubic m**
4	Find the volume of the right rectangular prism shown.	**66 cubic in.**
5	A right rectangular prism has side lengths of 12 ft, 1 ft, and 8 ft. Find its volume.	**96 cubic ft**
6	Prism A is 9 cm by 2 cm by 10 cm. Prism B is 8 cm by 7 cm by 3 cm. Which prism has the greater volume, and how many more cubic centimeters does it hold?	**Prism A, 12 cubic cm more**

PART 2 · APPLY IT

1. **54 cubic cm** Multiply the three side lengths: 9 × 3 × 2 = 54.
2. **112 cubic in.** Multiply the three side lengths: 7 × 8 × 2 = 112.

CHALLENGE

8 cm; the base area is 8 × 3 = 24 square cm, and 192 ÷ 24 = 8 layers.

Accept equivalent volume notation, such as cm^3, m^3, ft^3, or in^3. For the challenge, accept a correct explanation using base area and division.