LESSON MAKER PRO

Box Volume Quest

Find how much space each box holds.

GRADE 6 · 6.GR.A.2.b

6.GR.A.2.b "Apply the formulas V = lwh and V = B · h (B is the area of the base) to find the volumes of right rectangular prisms with fractional edge lengths in context."

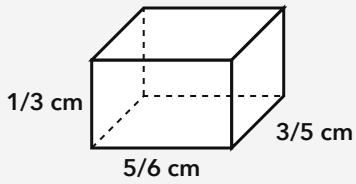
NAME _____ DATE _____

FIND THE VOLUME

For a right rectangular prism, multiply length, width, and height: V = lwh. You can also find the base area B = lw, then multiply V = B · h. Write volume in cubic units.

WORKED EXAMPLE

Find the volume of the prism shown.



1. B = 5/6 × 3/5 = 1/2 cm^2
2. V = B × h = 1/2 × 1/3 = 1/6 cm^3

Answer: 1/6 cm^3

PRACTICE 4 problems

1 A pencil box is 3/2 in. long, 1/4 in. wide, and 4/5 in. high. Find its volume.

ANSWER _____

2 A terrarium has a base area of 7/8 ft^2 and a height of 4/7 ft. Find its volume.

ANSWER _____

3 A toy crate measures 5/4 ft by 2/5 ft by 3/2 ft. Find its volume.

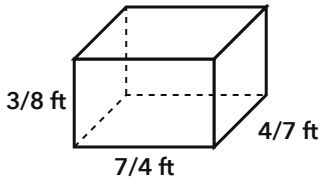
ANSWER _____

4 A storage box measures 9/10 ft by 5/3 ft by 2/5 ft. Find its volume.

ANSWER _____

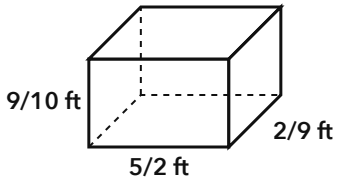
APPLY IT Show your work

1 A box for skateboard parts has the dimensions shown. How much space is inside?



ANSWER _____

2 A model rocket needs a display case with the dimensions shown. What is the case's volume?



ANSWER _____

CHALLENGE One step up

A game bin is 3/2 ft long, 4/3 ft wide, and 5/4 ft high. Another bin has a base area of 2 ft^2 and a height of 7/6 ft. Which bin holds more, and by how much?

WORK SPACE AND ANSWER

ANSWER KEY

Box Volume Quest

GRADE 6 · 6.GR.A.2.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A pencil box is 3/2 in. long, 1/4 in. wide, and 4/5 in. high. Find its volume.	**3/10 in^3**
2	A terrarium has a base area of 7/8 ft^2 and a height of 4/7 ft. Find its volume.	**1/2 ft^3**
3	A toy crate measures 5/4 ft by 2/5 ft by 3/2 ft. Find its volume.	**3/4 ft^3**
4	A storage box measures 9/10 ft by 5/3 ft by 2/5 ft. Find its volume.	**3/5 ft^3**

PART 2 · APPLY IT

1. **3/8 ft^3** The base area is 7/4 × 4/7 = 1 ft^2. Multiply by the height: 1 × 3/8 = 3/8 ft^3.
2. **1/2 ft^3** Multiply the three dimensions: 5/2 × 2/9 × 9/10 = 1/2 ft^3.

CHALLENGE

The first bin holds 1/6 ft^3 more. Its volume is 5/2 ft^3, and the second bin's volume is 7/3 ft^3.

Accept equivalent fractions and decimals with correct cubic units. For the challenge, accept either bin name or a clear reference to its dimensions.