

Name _____

Find Volume of Composed Figures

I Can find the volume of rectangular prisms that are combined.

Florida's B.E.S.T.

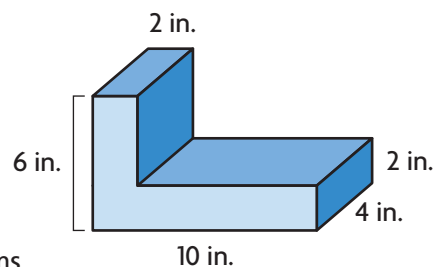
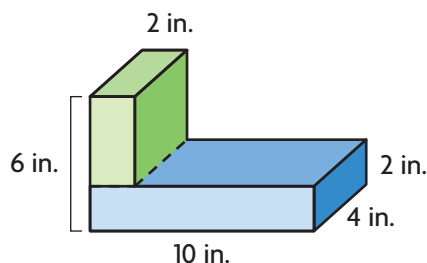
- **Geometric Reasoning** 5.GR.3.1, 5.GR.3.2, 5.GR.3.3
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

UNLOCK the Problem **Real World**

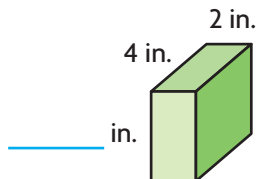
The shape at the right is a composite figure. It is made up of two rectangular prisms that are combined. How can you find the volume of the figure?

One Way Use addition.

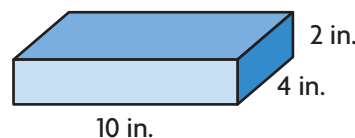
STEP 1 Break apart the composite figure into two rectangular prisms.



STEP 2 Find the length, width, and height of each prism.



Think: The total height of both prisms is 6 inches. Subtract the given heights to find the unknown height. $6 - 2 = 4$



STEP 3 Find the volume of each prism.

$$V = l \times w \times h$$

$$V = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$$

$$V = \underline{\hspace{1cm}} \text{ cu in.}$$

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$$V = \underline{\hspace{1cm}} \text{ cu in.}$$

STEP 4 Add the volumes of the rectangular prisms.

$$\underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

So, the volume of the composite figure is cubic inches.

- **MTR** What is another way you could divide the composite figure into two rectangular prisms?

Another Way Use subtraction.

You can subtract the volumes of prisms formed in empty spaces from the greatest possible volume to find the volume of a composite figure.

STEP 1

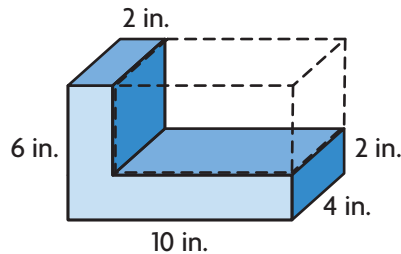
Find the greatest possible volume.

length = _____ in.

width = _____ in.

height = _____ in.

$V =$ _____ cubic inches



STEP 2

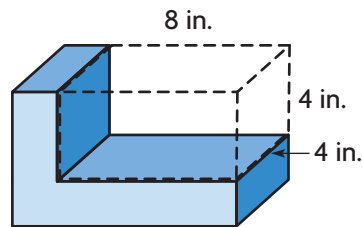
Find the volume of the prism in the empty space.

length = _____ in. **Think:** $10 - 2 = 8$

width = _____ in.

height = _____ in. **Think:** $6 - 2 = 4$

$V = 8 \times 4 \times 4 =$ _____ cubic inches



STEP 3

Subtract the volume of the empty space from the greatest possible volume.

_____ - _____ = _____ cubic inches

So, the volume of the composite figure is _____ cubic inches.

Try This!

Find the volume of a composite figure made by putting together three rectangular prisms.

$V =$ _____ \times _____ \times _____ = _____ cu ft

$V =$ _____ \times _____ \times _____ = _____ cu ft

$V =$ _____ \times _____ \times _____ = _____ cu ft

Total volume = _____ + _____ + _____ = _____ cubic feet

