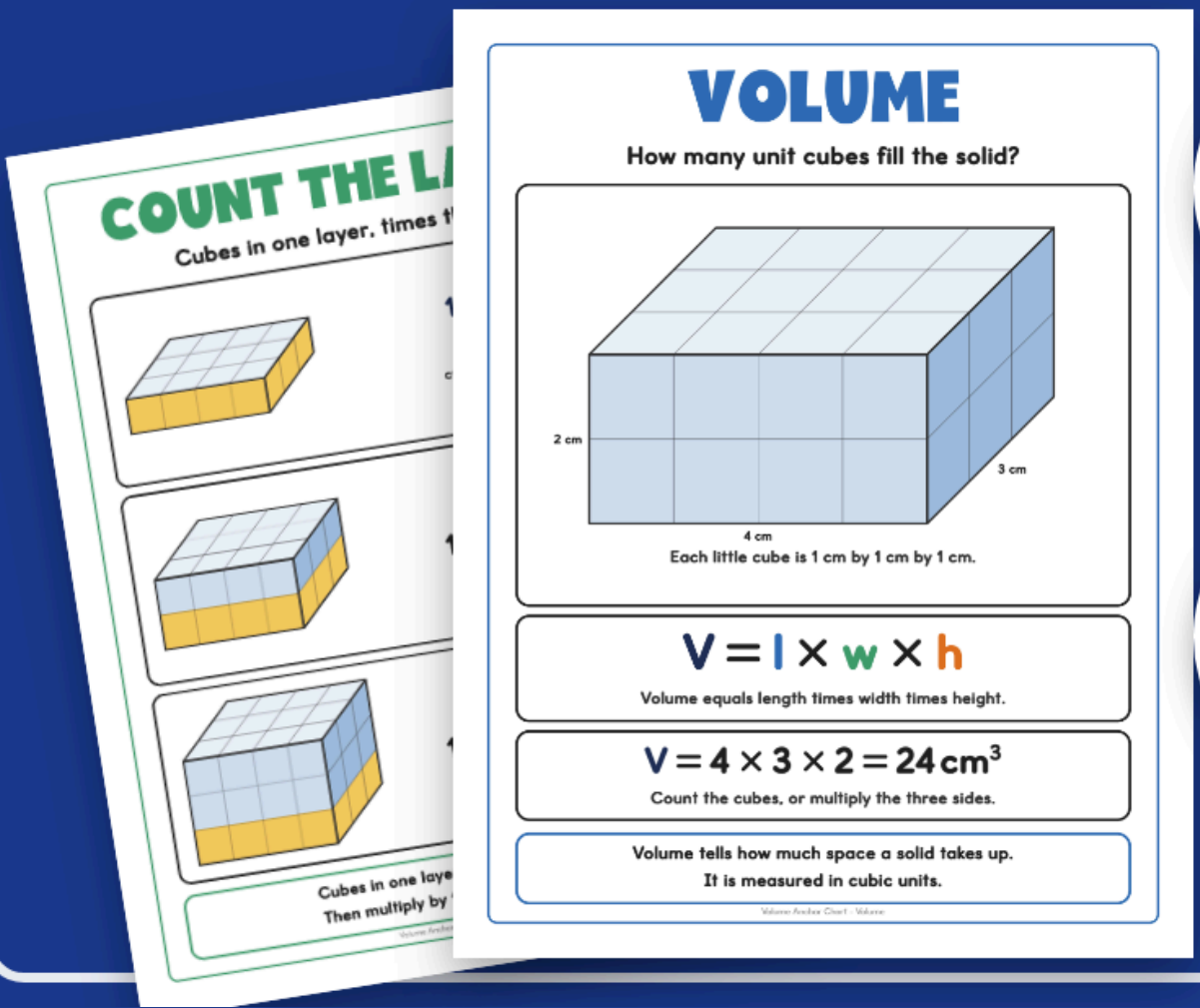
VOLUME OF PRISMS ANCHOR CHARTS



6 POSTERS

GRADES 5-6

Bright Path Sped

Terms of Use

Please read before you print your first page.

One classroom license

- This file is for one classroom: one teacher, one group of students.
- Please do not share it, post it online, or sell it.
- Extra licenses for a team or a school are available on the product page.

This is a fillable PDF

- Open it in a PDF reader (Adobe Acrobat Reader, Preview, or your browser), click into a line or a box, type, and Save As.
- The name lines, the answer blanks on the practice pages, the family note and every notes area are type-in fields. The posters and the notebook charts are print pages. You can also print any page and write by hand.
- It works offline. No account, no subscription, no internet connection needed after you download it.

Print at 100 percent

Turn off fit to page and shrink to fit so the cut pieces keep their size. Every page is readable in black and white. Posters look best on cardstock; the charts children cut are fine on copy paper.

Need help?

If a field will not behave or a page will not print the way you expect, use Ask a Question on the product page before leaving a review. Every question is read, and a fix to the file ships as an update.

© Bright Path Sped. For single-classroom use by the original purchaser.

PREVIEW

How to Teach It: Five Short Routines

Each one takes a few minutes. If you have linking cubes, build the prism first, then show the poster.

1. See the cubes

- Show the volume poster (page 5). Say: "Volume is how many unit cubes fill the solid."
- Ask: "How many cubes could you count on the front? Are there cubes you cannot see?"

2. Count the layers

- Show page 6. The gold layer is one layer. Children say how many cubes are in it.
- Ask: "How many layers are there? What do we do with those two numbers?"

3. Base times height

- Show page 7. The base is the bottom layer: length times width.
- Say: "Find the base. Then multiply by the height."

4. Cubic or square?

- Show page 8. Children point to the squares for area and the cubes for volume.
- Ask: "Which unit do I write? How do you know?"

5. Missing sides, joined solids, then send it home

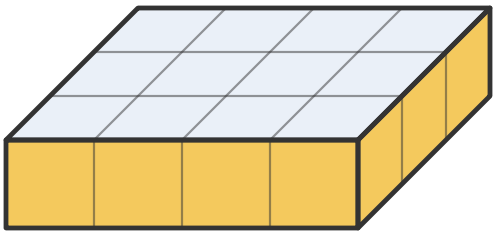
- Show page 9 and page 10. Children cut the notebook charts (page 17 or 18) and glue one in.
- Send the note home (page 30) so families practice too.

Notes on your day

PREVIEW

COUNT THE LAYERS

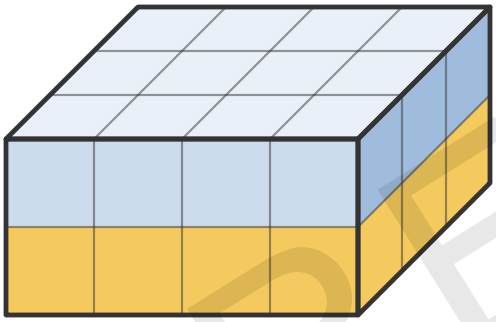
Cubes in one layer, times the layers.



1 layer

12

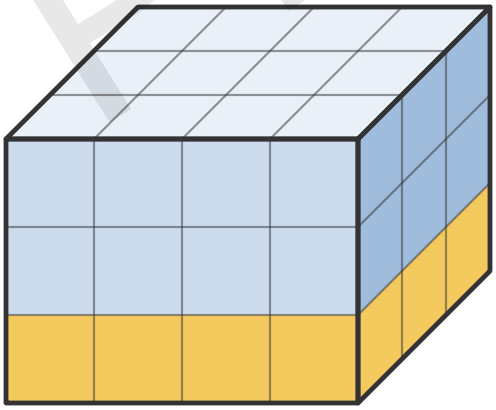
cubes in 1 layer



2 layers

12 + 12 = 24

cubes in 2 layers



3 layers

12 + 12 + 12 = 36

cubes in 3 layers

Cubes in one layer: length times width.
Then multiply by the number of layers.

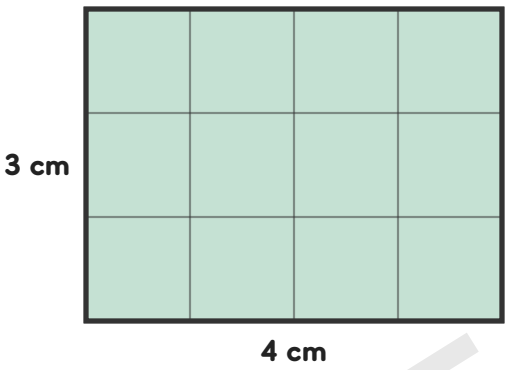
PREVIEW

Preview · Bright Path Sped

CUBIC UNITS

Volume is counted in cubes, never squares.

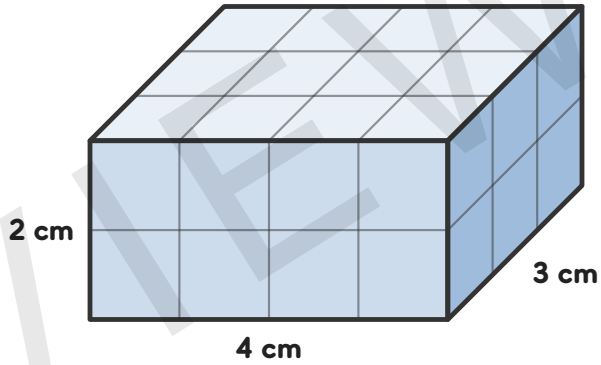
Area



$12\,cm^2$

square units cover a flat surface

Volume



$24\,cm^3$

cubic units fill a solid

PREVIEW

Cubic units

cm^3 cubic centimeters

in^3 cubic inches

ft^3 cubic feet

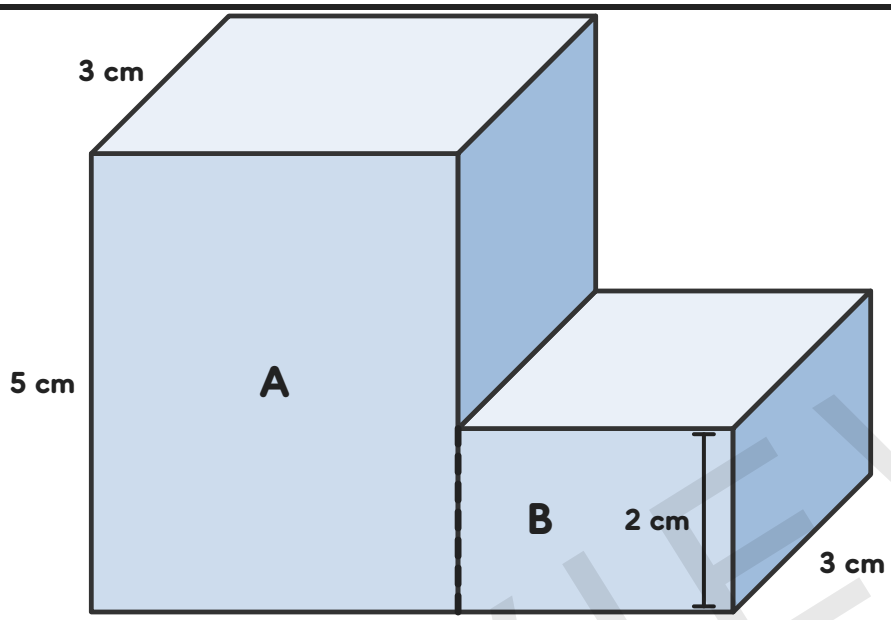
m^3 cubic meters

Area: square units, like cm with a small 2.

Volume: cubic units, like cm with a small 3.

TWO PRISMS ADDED

A joined solid is two prisms.



1 $A + B$

Split the solid into two prisms at the dashed line.

2

$$A = 4 \times 3 \times 5 = 60$$
$$B = 3 \times 3 \times 2 = 18$$

Find the volume of each prism.

3 $V = 60 + 18 = 78\ cm^3$

Add the two volumes.

Split first. Then find each volume.
Add the volumes. The unit is still cubic.

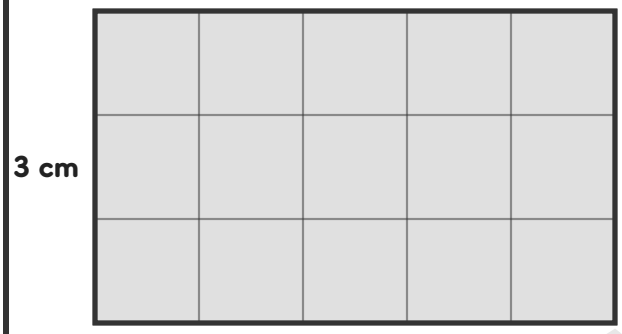
PREVIEW

Preview · Bright Path Sped

BASE TIMES HEIGHT

The same volume, in two steps.

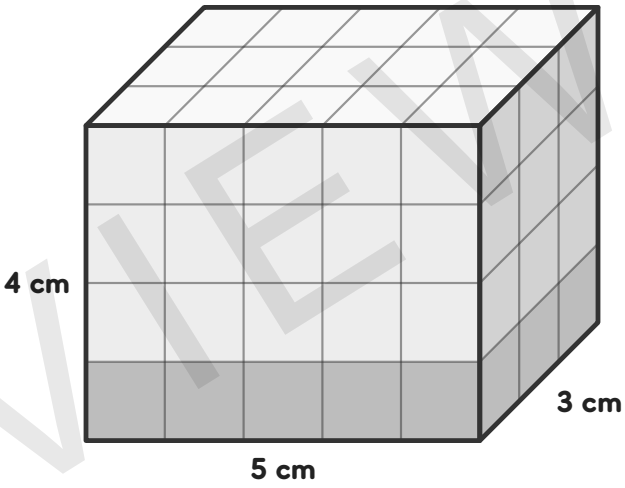
The base



$$B = 5 \times 3 = 15$$

15 square cm

The whole prism



4 layers of 15 cubes

$$V = B \times h$$

$$V = 15 \times 4 = 60\,cm^3$$

B is the area of the bottom layer. h is how many layers.

Step one: find the base, length times width.

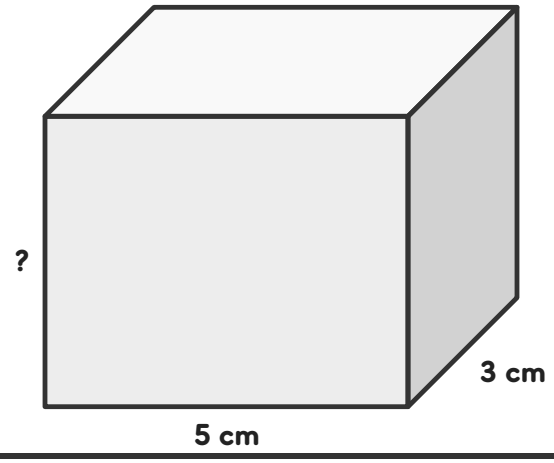
Step two: multiply the base by the height.

PREVIEW

Preview · Bright Path Sped

FIND THE MISSING SIDE

The volume is given. One side is missing.



$V = 60\,cm^3$

$l = 5\,cm$

$w = 3\,cm$

$h = ?$

1 $60 = 5 \times 3 \times h$

Write the formula with what you know.

2 $60 = 15 \times h$

Multiply the sides you know: 5 times 3 is 15.

3 $h = 60 \div 15 = 4$

Divide the volume by 15.

4 ✓ $15 \times 4 = 60$

Check: it matches the volume.

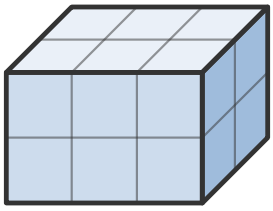
Volume divided by the base gives the missing side.
Check by multiplying all three sides.

PREVIEW

Preview - Bright Path Sped

Cut the charts apart. Glue one in your notebook.

Volume

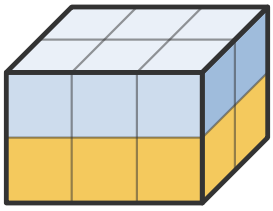


$V = l \times w \times h$

Cubes that fill the solid.

Glue in your notebook.

Layers

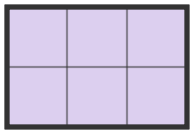


$6 + 6 = 12$

Cubes in 1 layer, then all layers.

Glue in your notebook.

Base Times Height



$B = l \times w$

$V = B \times h$

B is the area of the base.

Glue in your notebook.

Cubic Units

cm^3 in^3

ft^3 m^3

Count cubes, not squares.

Area: small 2. Volume: small 3.

Glue in your notebook.

Missing Side

$V = l \times w \times h$

$48 = 6 \times w \times 4$

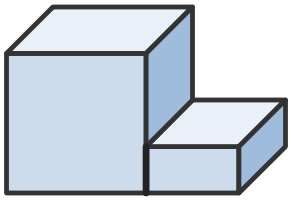
$6 \times 4 = 24$

$48 \div 24 = 2$

Divide V by the sides you know.

Glue in your notebook.

Two Prisms



$V = A + B$

Split. Find each volume. Add.

Glue in your notebook.

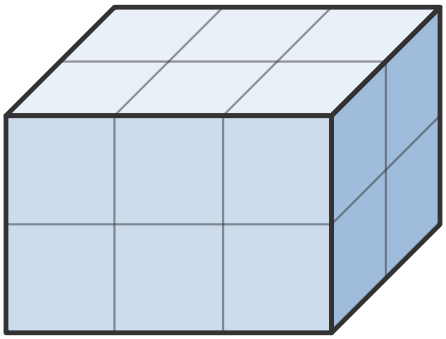
PREVIEW

Preview - Bright Path Shed

My name _____

Count the cubes in one layer. Count the layers.

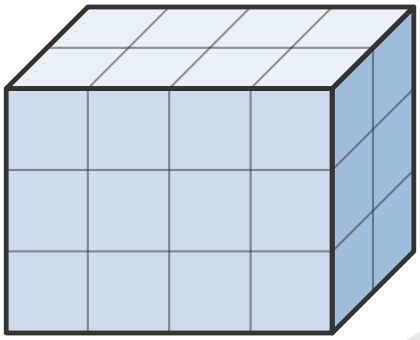
Then find how many cubes in all.



Cubes in one layer: _____ cubes

Number of layers: _____

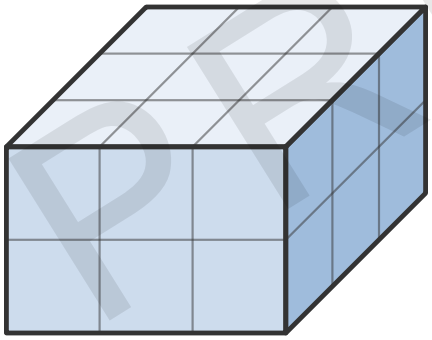
Cubes in all: _____ cubes



Cubes in one layer: _____ cubes

Number of layers: _____

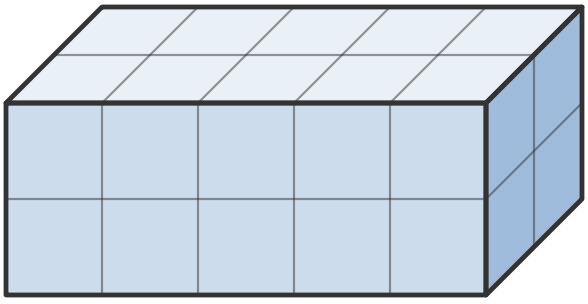
Cubes in all: _____ cubes



Cubes in one layer: _____ cubes

Number of layers: _____

Cubes in all: _____ cubes



Cubes in one layer: _____ cubes

Number of layers: _____

Cubes in all: _____ cubes

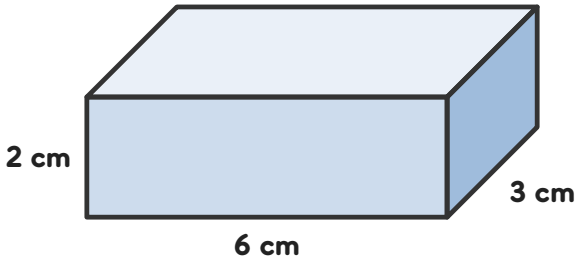
PREVIEW

Preview - Bright Path Sped

My name _____

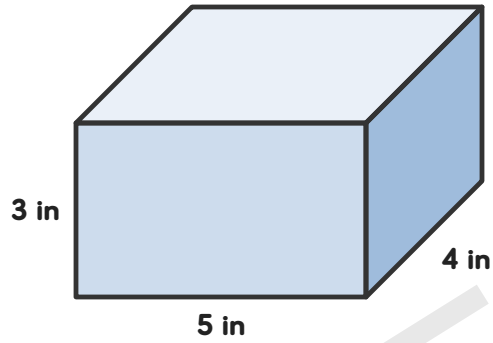
Multiply the three sides. Write the volume.

Volume equals length times width times height. Write the cubic unit.



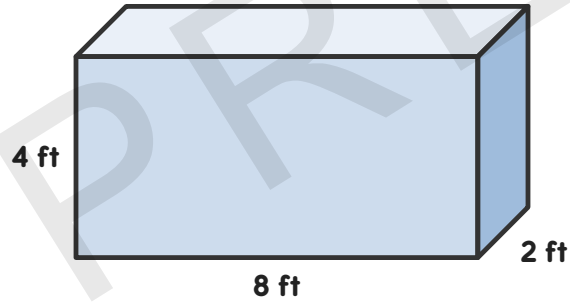
V = ___ × ___ × ___

V = ___ ___



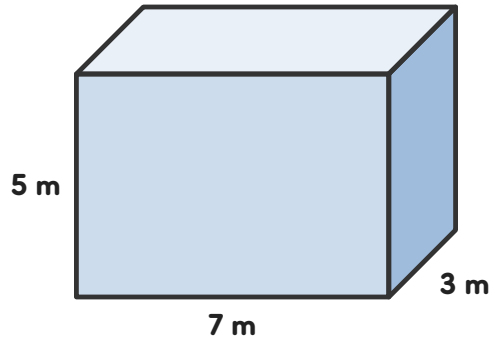
V = ___ × ___ × ___

V = ___ in^3



V = ___ × ___ × ___

V = ___ ft^3



V = ___ × ___ × ___

V = ___ m^3

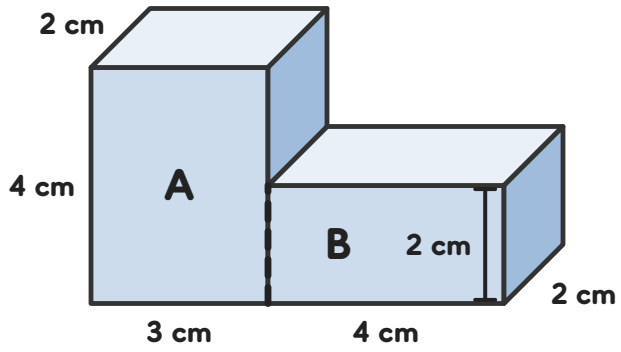
PREVIEW

Preview - Bright Path Sped

My name _____

Split the solid. Find A and B. Add.

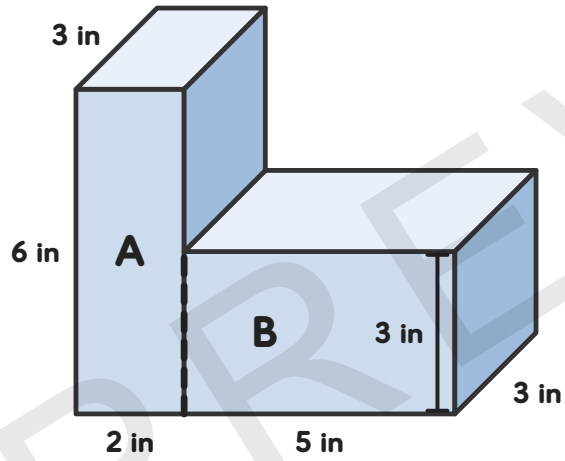
Cut it at the dashed line into prism A and prism B. Both have the same depth.



A = ___ × ___ × ___ = ___

B = ___ × ___ × ___ = ___

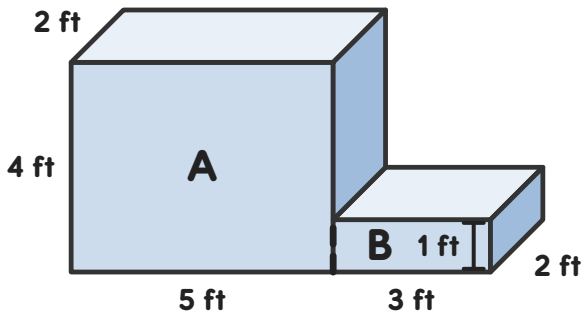
V = ___ + ___ = ___ cm^3



A = ___ × ___ × ___ = ___

B = ___ × ___ × ___ = ___

V = ___ + ___ = ___ in^3



A = ___ × ___ × ___ = ___

B = ___ × ___ × ___ = ___

V = ___ + ___ = ___ ft^3

PREVIEW

Filled Example: One Child's Page

The page is The Formula (page 20). Priya (invented child). The child, the teacher and every answer on this page are invented.

Problem (l, w, h)	Right volume	Priya wrote	Right?
6 × 3 × 2 cm	36	36	yes
5 × 4 × 3 in	60	20	no
8 × 2 × 4 ft	64	64	yes
7 × 3 × 5 m	105	15	no

Reading the page

2 of 4 were right. The first wrong one is item 2. Priya wrote 20, which is 5 times 4: the base, with the height left out. 5 times 4 times 3 is 60.

The second wrong one is item 4. Priya wrote 15, which is 7 plus 3 plus 5: the sides were added. Volume multiplies them: 105.

What the teacher did next

The teacher had Priya look at the cube-layer poster, say how many cubes are in one layer of item 2, then count the layers and multiply. Priya then rewrote item 4 with times signs between the sides.

What this example is not

One invented child's page. It sets no typical score, says nothing about any real child and predicts nothing.

My notes on the page

PREVIEW

Key: Base Times Height and Missing Side

On the second page a child may write the two known sides in either order.

Base times height (page 21)

Item	Base	Volume
1	24 cm^2	72 cm^3
2	25 in^2	50 in^3
3	18 ft^2	72 ft^3
4	12 m^2	96 m^3

Missing side (page 22)

Item	Known sides multiplied	Missing side
1	15	h = 60 / 15 = 4 cm
2	24	w = 72 / 24 = 3 in
3	15	l = 90 / 15 = 6 ft
4	28	h = 84 / 28 = 3 m

PREVIEW

My notes on the answers

Class Roll: Who Can Find Volume

Put a check in the box for each skill a child can do on his or her own.

Your class

Child	Counts cubes in layers	Uses l x w x h	Uses base x height	Writes cubic units	Finds a missing side	Adds two prisms

PREVIEW

Next steps

- Skills with many blanks: show the cube-layer poster again, then work a few problems together.
- Keep the roll in the binder with the keys.

My notes on the class

A Note Home: Volume

One page to send home when you start the posters.

Date _____ Class _____ Teacher _____

Dear families,

This week we are learning about volume: how much space a box takes up. We count the cubes in one layer, count the layers, and multiply. We write the answer in cubic units.

$$V = 4 \times 3 \times 2 = 24\,\text{cm}^3$$

This week we are practicing

_____

_____

You can try this at home

Ask your child to show you the volume poster or notebook chart and explain one example. Ask: "How many cubes in one layer? How many layers?"

_____

_____

_____

A note from me (your words)

_____

_____

_____

_____

Thank you, (teacher) _____ Family signature, if your school asks for one _____

PREVIEW