

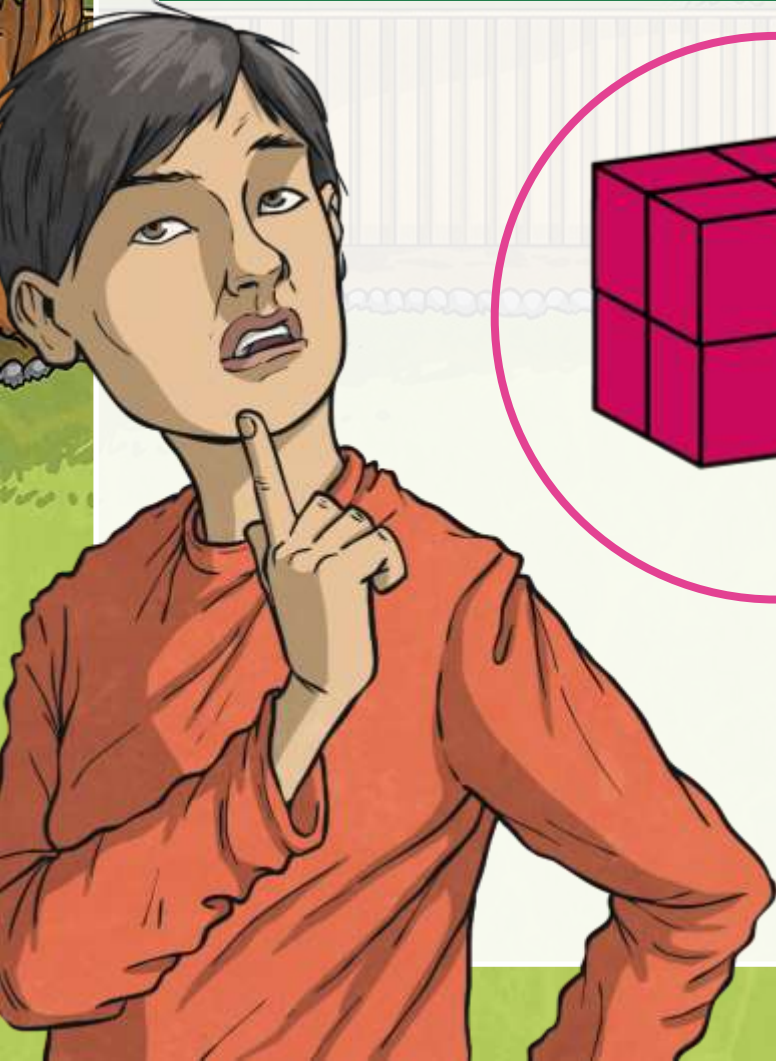
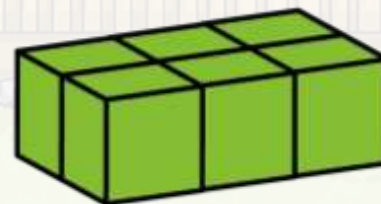
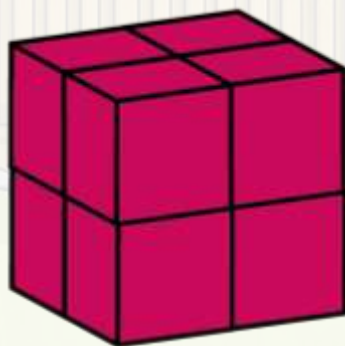
Compare Volume

Aim

- Compare volume.

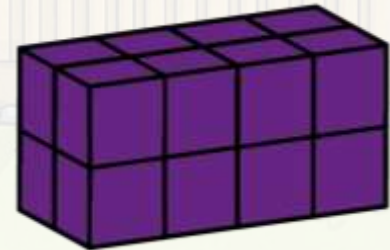
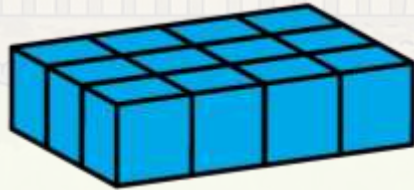


Which of these shapes has the greatest volume?



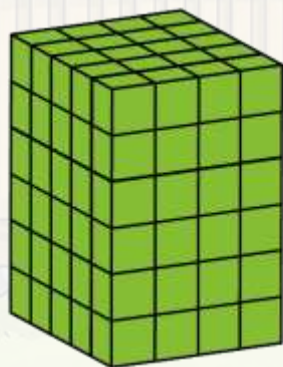


Use $<$ and $>$ symbols to compare these:





What is the volume of this cuboid?



120cm^3

Could these cubes be arranged any other way?



Compare Volume

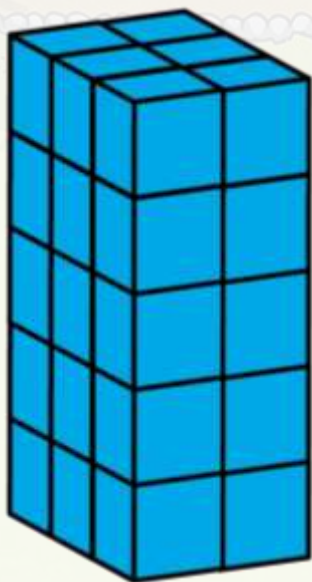
Deeper



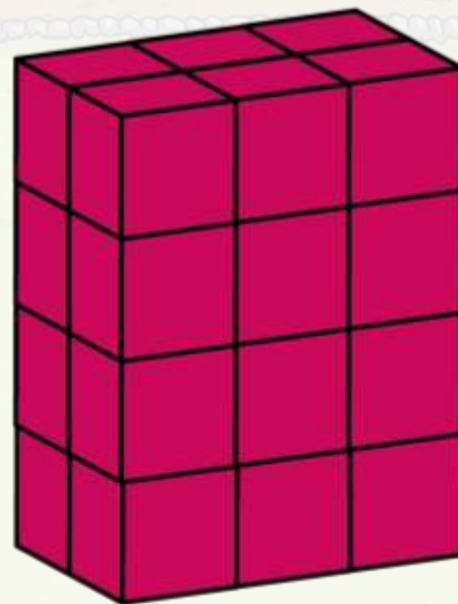
Amelie has made a shape out of 1cm cubes. Its volume is smaller than the blue model but greater than the pink model.

What could her shape look like? Make or draw it!

What **could** its volume be?



25cm^3 to 29cm^3

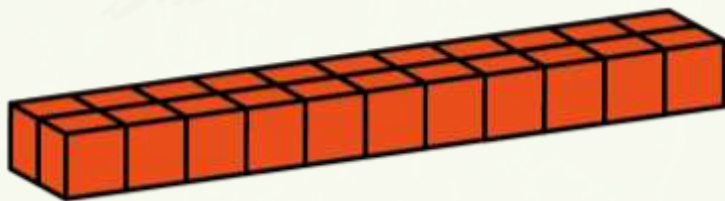




A shape made of 1cm cubes with a base that is 3cm long and 2cm wide can't have a volume greater than this shape.



Is Sam correct?



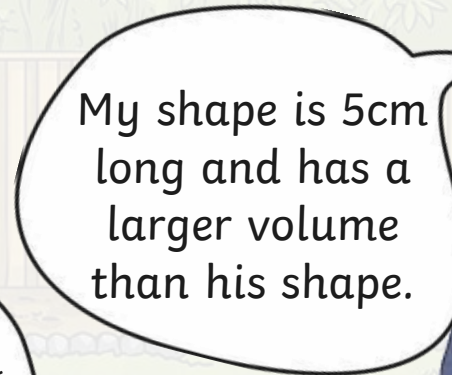
No. We only know that the base layer of cubes is equal to 6cm^3 – the shape could be any height.

Compare Volume

Deepest



My shape is 2cm long and 2cm wide.



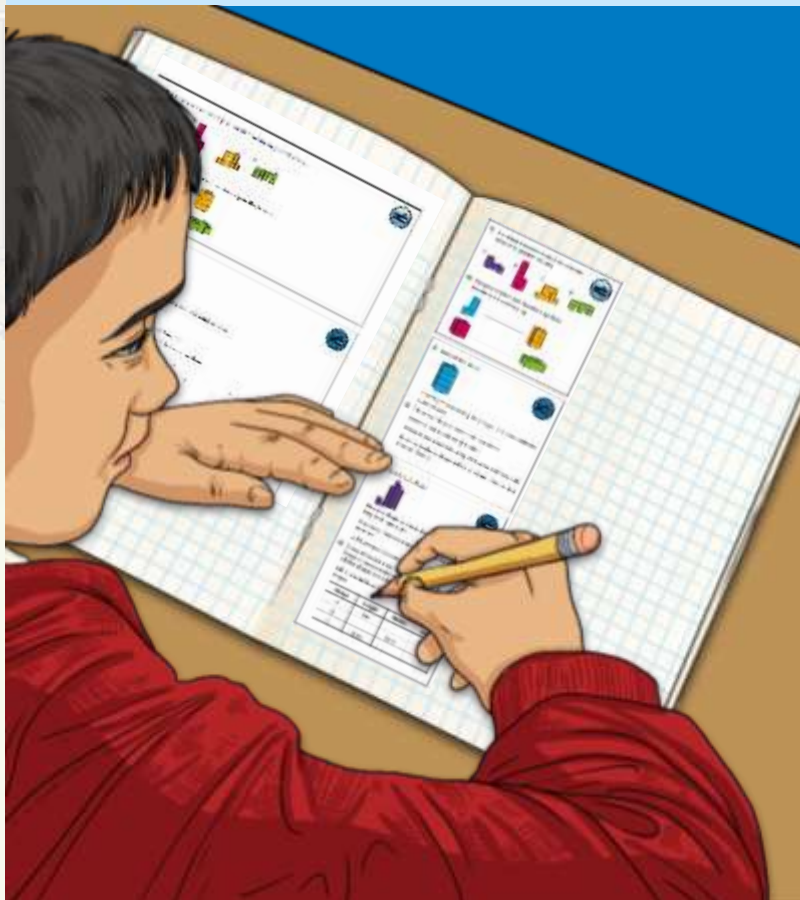
My shape is 5cm long and has a larger volume than his shape.



Discuss with a partner the possible missing measurements of each of their shapes.

Comparing Volume

Dive in by completing your own activity!



1) This is Greg's shape.

Isabel's shape is made from 10 Greg's shapes. Isabel's shape has to be correct? Complete.

2) Shape A has a greater volume. All the shapes are cuboids. Fill in the table with possible values.

| Shape |
|-------|
| A |
| B |
| C |

3) Put these shapes in order from smallest volume to greatest volume.

A B C D

4) Use greater than and less than symbols to compare the following.

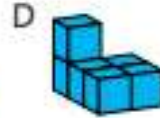
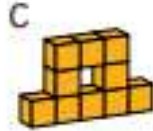
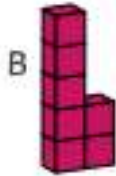
5) Look at this shape.

Investigate how many shapes you can make with the same volume.

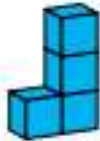
6) I have two shapes made from unit cubes. Shape A has a volume of 14000. Shape B has sides 30m long, 20m wide and 10m tall. Draw or make a shape which is bigger than A, but smaller than B.

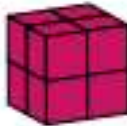
Activities

- 1) Put these shapes in order, from smallest volume to greatest volume:



- 2) Use greater than and less than symbols to compare the following:

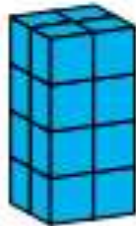






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1) Look at this shape:



Investigate how many shapes you can make with the same volume.

2) I have two shapes made from 1cm cubes.

Shape A has a volume of 14cm^3 .

Shape B has sides 3cm long, 2cm wide and 3cm tall.

Draw or make a shape which is bigger than A, but smaller than B.

- 1) This is Greg's shape:



Laurel's shape is made from 1cm cubes. It is 2cm long and 4cm wide.

Greg says, "Laurel's shape can't have the same volume as mine."

Is he correct? Convince me.

- 2) Shape A has a greater volume than shape B.
Shape B has a greater volume than shape C.
All the shapes are cuboids.

Fill in the table with possible measurements for each shape:

| Shape | Length | Width | Height |
|-------|--------|-------|--------|
| A | 3cm | | 6cm |
| B | | 8cm | |
| C | 20cm | | |