

Fluency

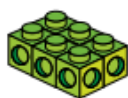
- 1) Each cube has a volume of 1 cm^3 .
What is the volume of each shape?

a)



volume = cm^3

b)



volume = cm^3

c)



volume = cm^3

d)



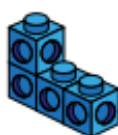
volume = cm^3

e)



volume = cm^3

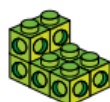
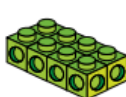
f)



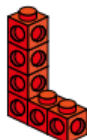
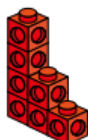
volume = cm^3

- 2) Write $<$, $>$, or $=$ to compare the volume of these shapes.

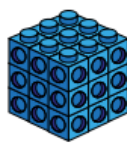
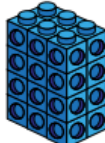
a)



b)



c)



Problem Solving

- 3) Amir, Whitney and Mo all build a shape using cubes.

Mo has lost his shape, but knows that it's volume was greater than Whitney's, but less than Amir's.

What could the volume of Mo's shape be?

Amir's



Whitney's



- 4) Amir, Eva and Alex have made shapes out of centimetre cubes.

- a) Amir has made this shape.



What is the volume of Amir's shape?

- b)



I used 24 cubes to make my shape.

What is the volume of Eva's shape?

- c)



The volume of my shape is greater than Amir's but less than Eva's.

What could the volume of Alex's shape be?

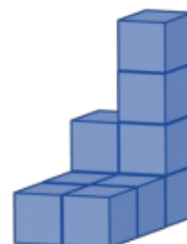
Reasoning

- 5) Shape A has a height of 12 cm. Shape B has a height of 4 cm.

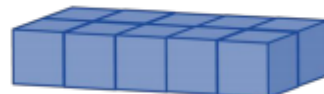
Dora says Shape A must have a greater volume.

Is she correct? Explain your answer.

- 6) Eva has built this solid:



Tommy has built this solid:



Eva thinks that her shape must have the greatest volume because it is taller.

Do you agree?

Explain your answer.

Mastery Challenge

- 1) I have two shapes made from 1 cm cubes. Shape A has a volume of 14 cm^3 . Shape B has sides 3 cm long, 2 cm wide and is 3 cm tall. Draw or make a shape which is bigger than A, but smaller than B.
- 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	3 cm		6 cm
B		8 cm	
C	20 cm		