Year Five
Maths
Lesson 3

Fluency Starter

- Keep up your daily practice of 5 a day https://corbettmathsprimary.com/5-a-day/ and challenge yourself to Bronze, Silver, Gold or Platinum!

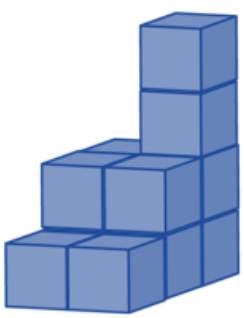
- Or Complete Flashback 4 for your daily starter (on the next slide).

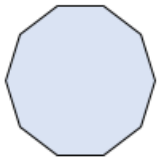
- Log on to Doodlemaths for 15 minutes each day and try and keep in the Green Zone.
- There are also some Maths activities on Purple Mash to complete.

Fluency Starter

Flashback 4

Year 5 | Week 11 | Day 3





1) Each cube has a length of 1 cm.
What is the volume of the shape?

2) 1 kg ≈ 2 lb.
Roughly how many lb is 4.5 kg?

3) Translate the point (2,5) 4 to the right and 3 down.

4) Subtract 7 from 3

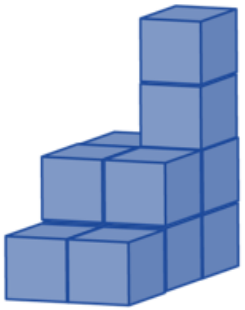
White Rose Maths

Fluency Starter Answers

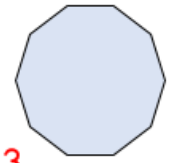
Flashback 4

Year 5 | Week 11 | Day 3

1) Each cube has a length of 1 cm.
What is the volume of the shape?



12 cm^3



2) 1 kg ≈ 2 lb.
Roughly how many lb is 4.5 kg? 9 lb

3) Translate the point (2,5) 4 to the right and 3 down. (6,2)

4) Subtract 7 from 3 -4

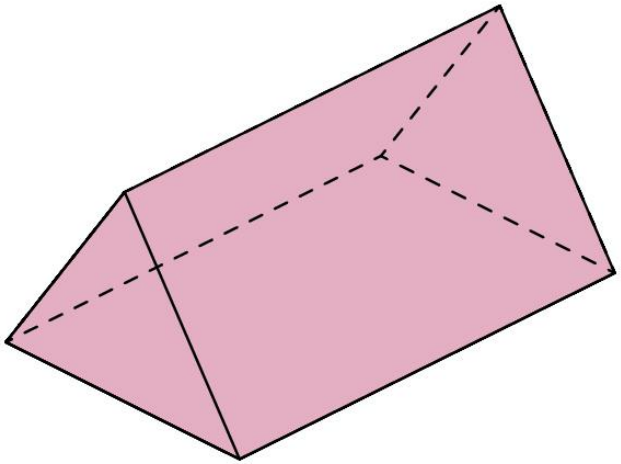
White Rose Maths

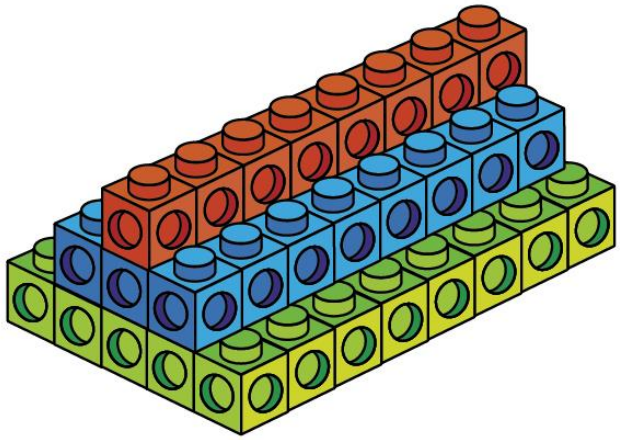
Lesson Aims

- I can estimate volume

Estimate volume

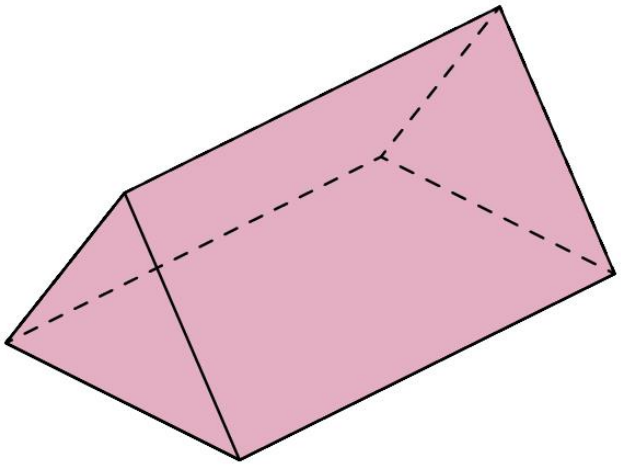
1 Rosie is using cubes to estimate the volume of a triangular prism.

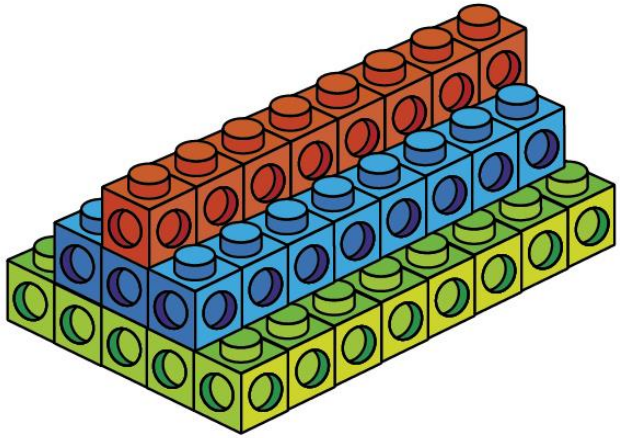




a) Why do you think Rosie stacked her cubes like this?

1





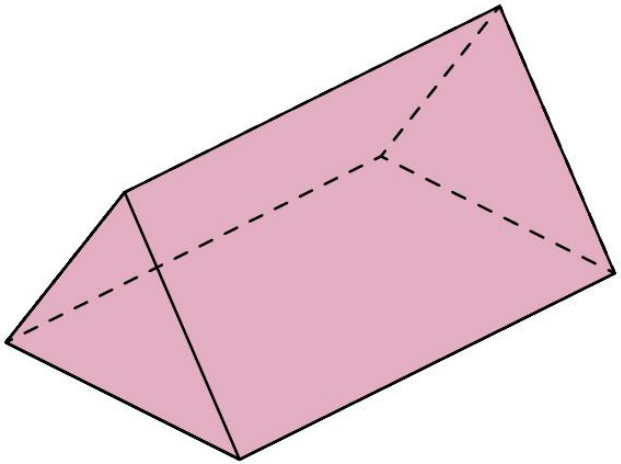
b) The volume of each cube is 1 cm^3

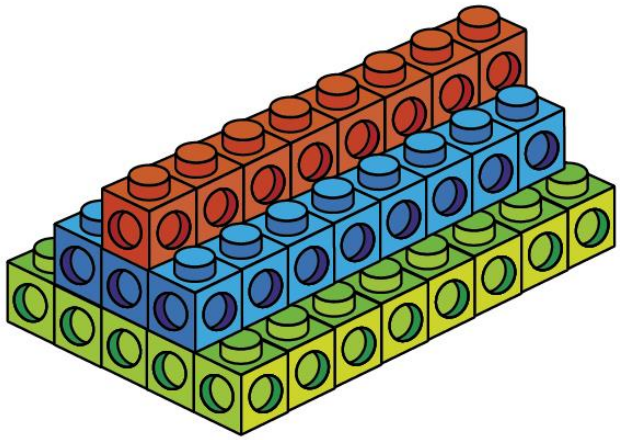
Work out an estimate for the volume of the triangular prism.

Show your workings.

volume ≈ ☐ cm^3

1





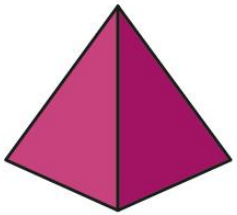
c) Why is the answer only an estimate?

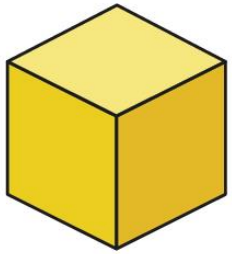
_____

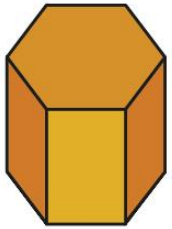
_____

d) Do you think the estimate is more or less than the actual volume?

2 Here are some 3D shapes.



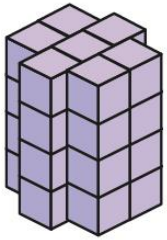


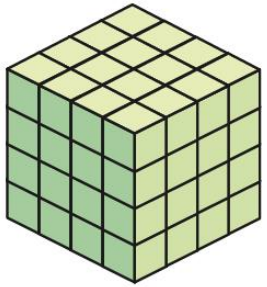


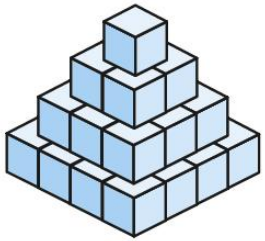
Rosie uses cubes to estimate the volume of each shape.

Each cube has a volume of 1 cm^3

a) Tick the representation that will give Rosie the best estimate for the volume of the cube.

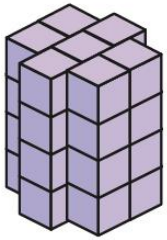


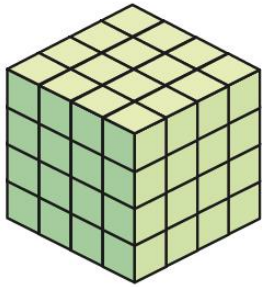


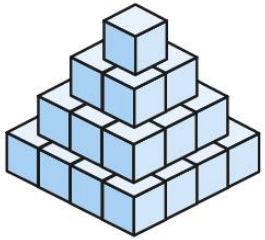


Estimate the volume of the cube. ☐ cm^3

2 **b)** Tick the representation that will give Rosie the best estimate for the volume of the hexagonal prism.

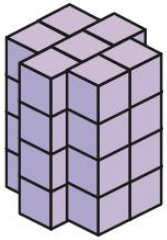


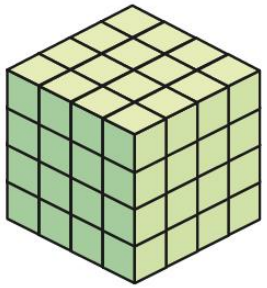


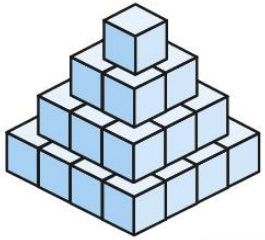


Estimate the volume of the hexagonal prism. ☐ cm^3

c) Tick the representation that will give Rosie the best estimate for the volume of the square based pyramid.



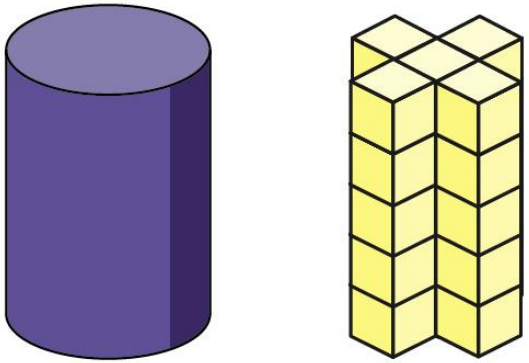




Estimate the volume of the square based pyramid. ☐ cm^3

3 Jack has used cubes to estimate the volume of a cylinder.

Each cube has a volume of 1 cm^3



a) Estimate the volume of the cylinder.

volume ≈ ☐ cm^3

b) Will the actual volume be greater than or less than your estimate?

_____

Explain your answer.

_____

_____

4 Use cubes to estimate the volume of objects in your classroom.

Record some of your answers here.

_____ ≈ ☐ cubes

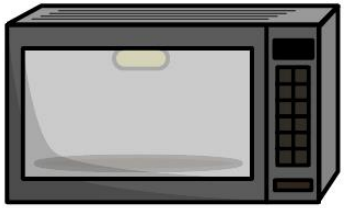
_____ ≈ ☐ cubes

_____ ≈ ☐ cubes

_____ ≈ ☐ cubes

Compare answers with a partner.

5 Match the object to its approximate volume.



330 cm^3	33,000 cm^3	330,000 cm^3

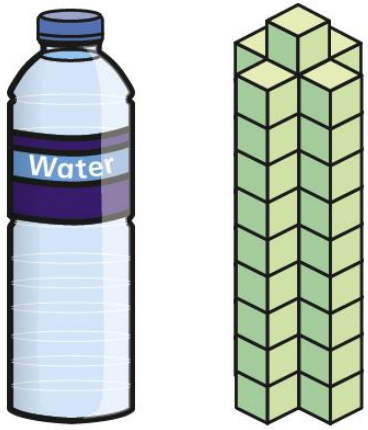
How did you decide?

6 A shopkeeper is estimating the volume of a fridge.

The fridge holds 40 bottles of water.

The shopkeeper uses cubes to estimate the volume of one bottle of water.

Each cube has a volume of 10 cm^3



Estimate the volume of the fridge.

volume ≈ ☐ cm^3

Does this mean that all fridges have the same volume?

Fluency Activity

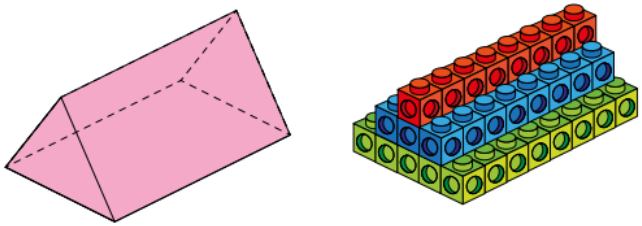
- See activity sheet Day 3
- Complete as many questions as you are able.

Fluency Activity Answers

Estimate volume

White Rose Maths

1 Rosie is using cubes to estimate the volume of a triangular prism.



a) Why do you think Rosie stacked her cubes like this?

b) The volume of each cube is 1 cm³

Work out an estimate for the volume of the triangular prism.

Show your workings.

40 + 24 + 8 = 72

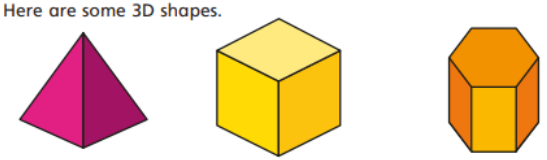
volume = 72 cm³

c) Why is the answer only an estimate?

It isn't exactly the same shape and size as the triangular prism.

d) Do you think the estimate is more or less than the actual volume?

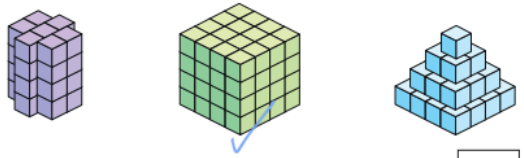
2 Here are some 3D shapes.



Rosie uses cubes to estimate the volume of each shape.

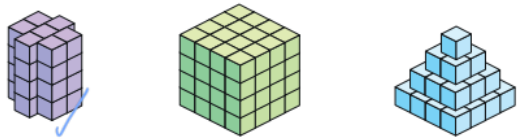
Each cube has a volume of 1 cm³

a) Tick the representation that will give Rosie the best estimate for the volume of the cube.



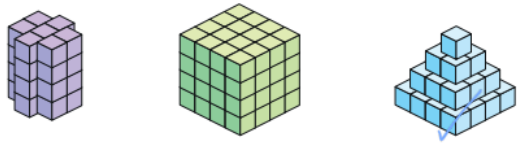
Estimate the volume of the cube. 64 cm³

b) Tick the representation that will give Rosie the best estimate for the volume of the hexagonal prism.



Estimate the volume of the hexagonal prism. 28 cm³

c) Tick the representation that will give Rosie the best estimate for the volume of the square based pyramid.

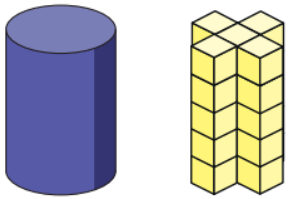


Estimate the volume of the square based pyramid. 30 cm³

Fluency Activity Answers

3 Jack has used cubes to estimate the volume of a cylinder.

Each cube has a volume of 1 cm³



a) Estimate the volume of the cylinder.

volume ≈ 25 cm³

b) Will the actual volume be greater than or less than your estimate?

greater

Explain your answer.

The cubes wouldn't fill the entire space inside the cylinder.

4 Use cubes to estimate the volume of objects in your classroom.

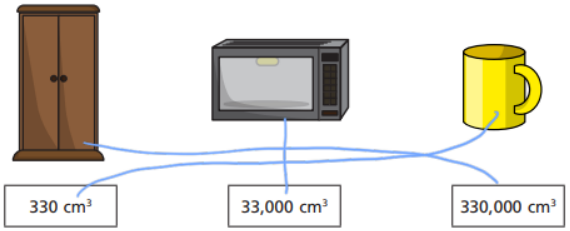
Record some of your answers here. Various answers.

_____ ≈ ☐ cubes _____ ≈ ☐ cubes

_____ ≈ ☐ cubes _____ ≈ ☐ cubes

Compare answers with a partner.

5 Match the object to its approximate volume.



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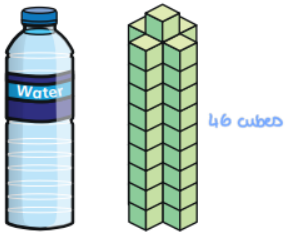


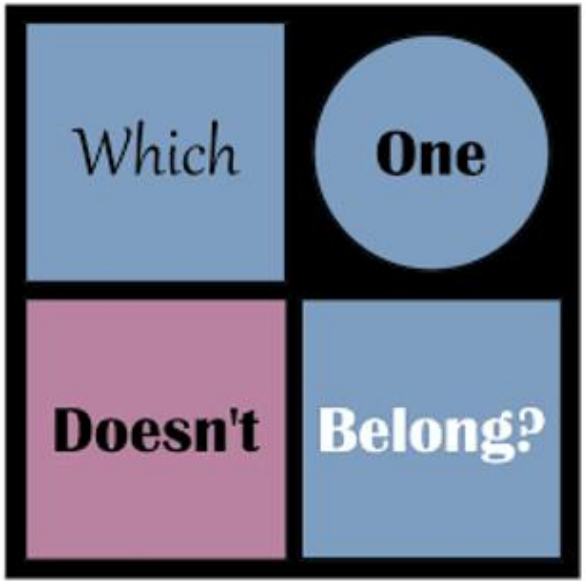
Estimate the volume of the fridge.

460 cm³ × 40 = 18,400 cm³

volume ≈ 18,400 cm³

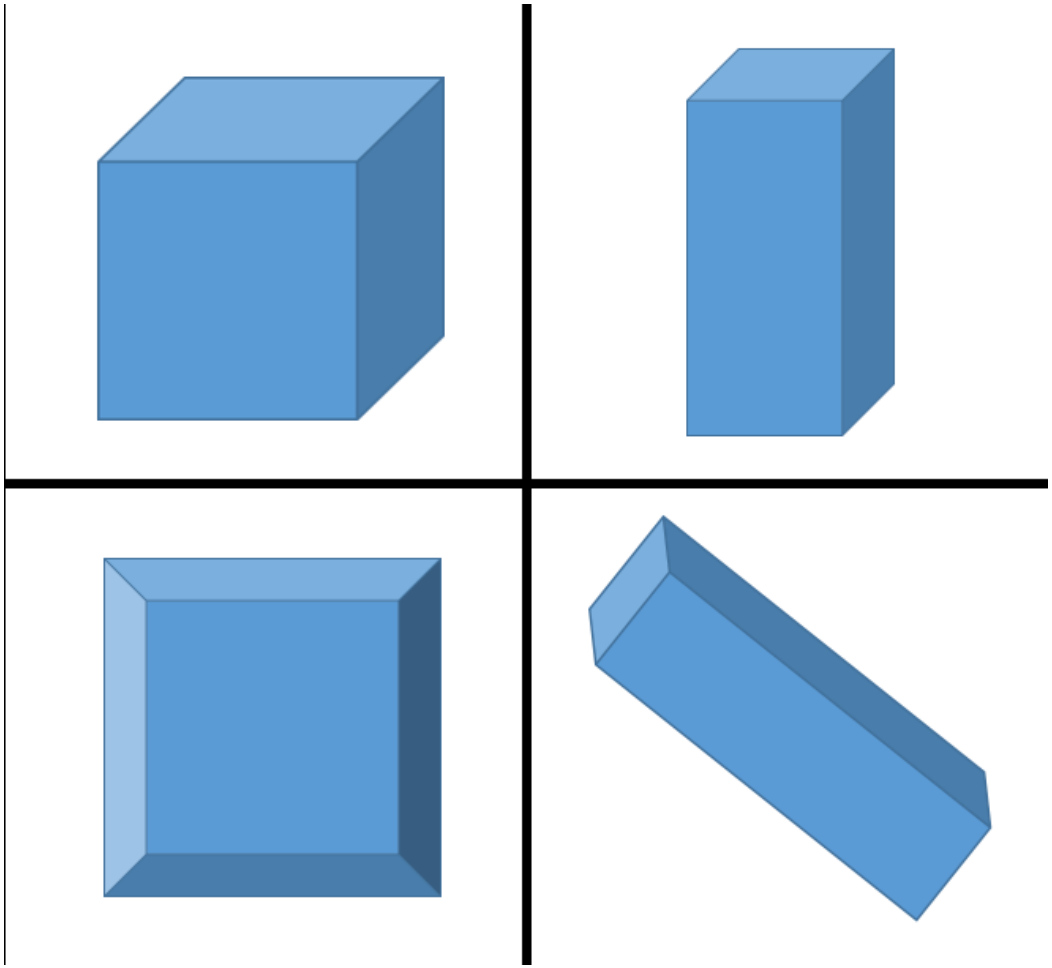
Does this mean that all fridges have the same volume?

Problem Solving



Problem Solving

- How many ways can you find?



Problem Solving

- How many different ways did you find?
- Can you explain your reasoning?