

Add cubes to shape A so that it has the same volume as shape B.



Aki makes a tower 15 cubes tall.

Emma makes a cuboid 4 cubes long, 2 cubes wide and 2 cubes high.

Predict who has made the shape with the greatest volume.

I predict that _____ has made the shape with the greatest volume because _____.

Now make each shape and check. Was your prediction correct? _____

Reflect

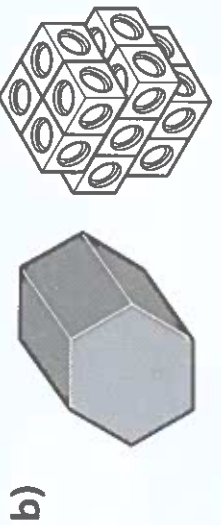
Why are two shapes that are made up of the same number of cubes but have different shapes but the same volume?

Estimating volume

- 1 Ambika estimates the volume of each 3D shape by making it with cubes.



Estimate of volume
= unit cubes



Estimate of volume
= unit cubes

- 2 Lexi builds some cubes to estimate the volume of her pencil.



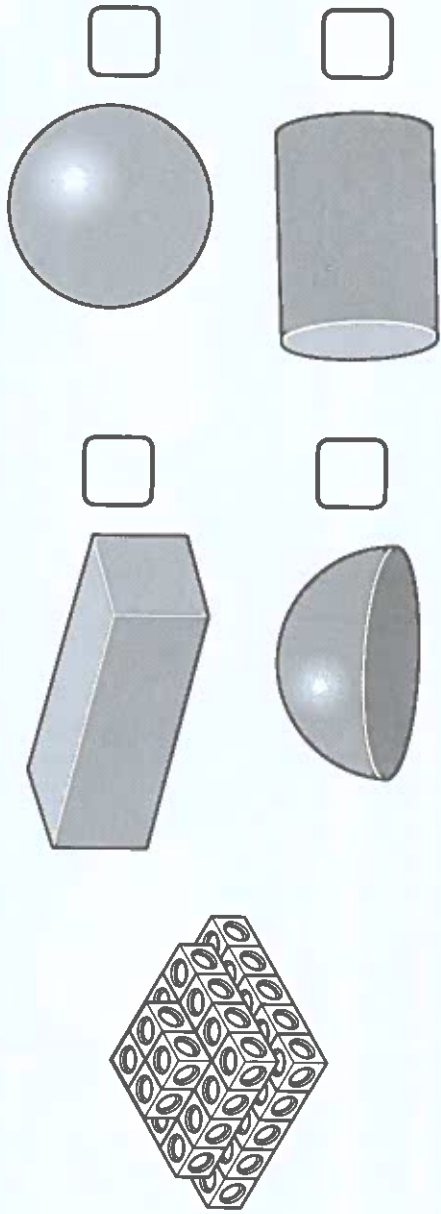
Lexi says the volume of the pencil is 12 unit cubes.



How accurate do you think Lexi's estimate is? Explain your answer.

Ebo has built this shape to estimate the volume of a 3D shape.

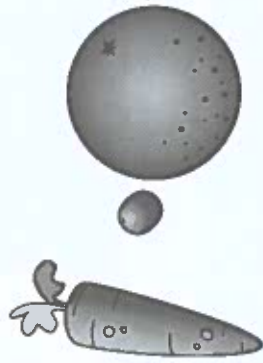
a) Tick the shape Ebo is estimating the volume of.



b) How can Ebo use his answer to a) to estimate the volume of the sphere?

Explain your answer.

Mo uses cubes to estimate the volume of a carrot, a grape and an orange.



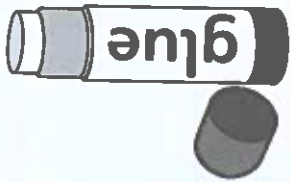
The carrot will have the greatest volume because it is longer than all the others.



Mo

Do you agree with Mo? Explain your answer.

5 Estimate the volume of the following items you might find in your school.



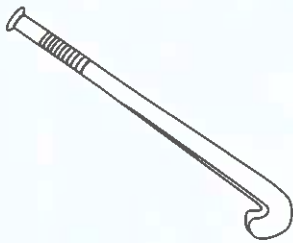
Estimate:

unit cubes



Estimate:

unit cubes



Estimate:

unit cubes

6 Complete the table with objects you might find in the classroom or at home.

CHALLENGE

Volume of less than 10 unit cubes	Volume of between 10 and 100 unit cubes	Volume of between 100 and 1,000 unit cubes

Reflect

Explain how you could estimate the volume of your hand.