Discussion Problems
Step 3: Estimate Volume

National Curriculum Objectives:

Mathematics Year 5: (5N6) Solve number problems and practical problems that involve all of the above
Mathematics Year 5: (5M8) Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

About this resource:

This resource has been designed for pupils who understand the concepts within this step. It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

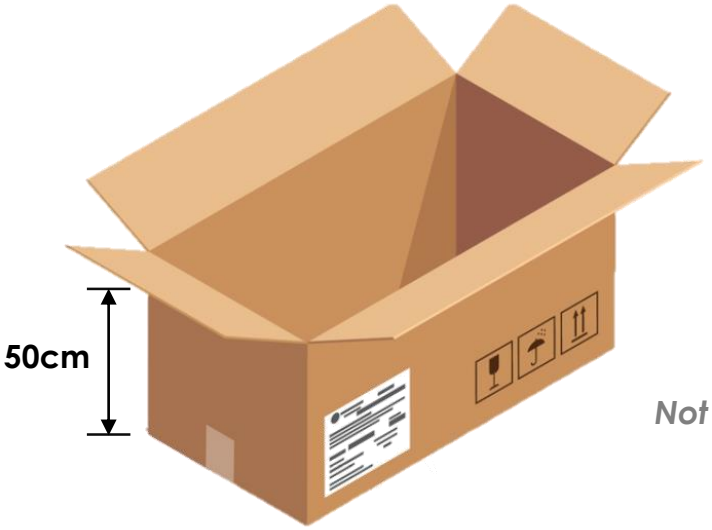
We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

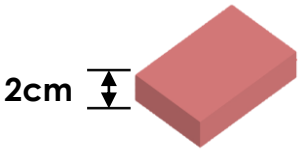
More Year 5 Volume resources.

Did you like this resource? Don't forget to review it on our website.

Estimate Volume

1. Katie is packing small boxes of raisins into a large box to ship to the local supermarket.





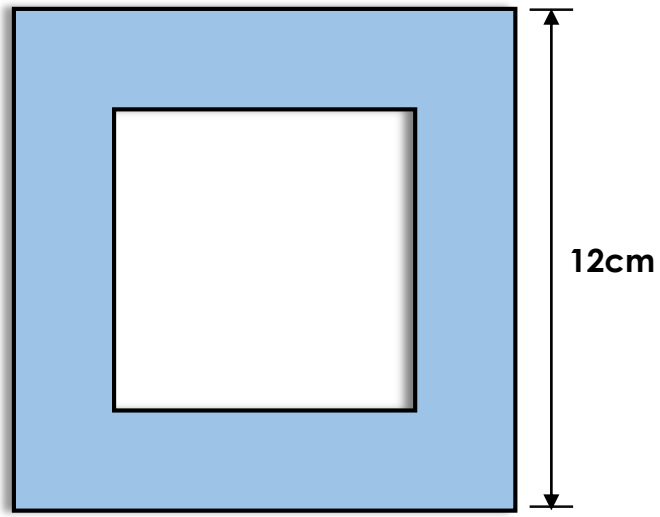
Not to scale

Estimate how many of the boxes of raisins fit into the large box.

Explore the possible dimensions of the large box.

DP

2. Geoff is stacking cubes to make a shape. Below is a bird's eye view of the shape he creates.



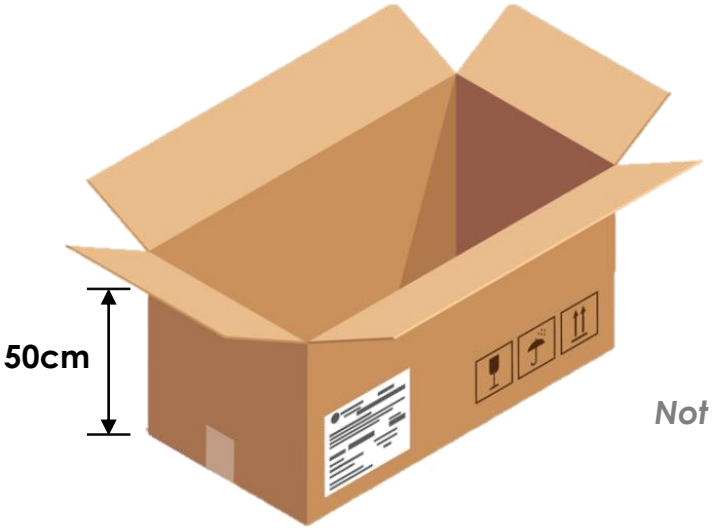
Not to scale

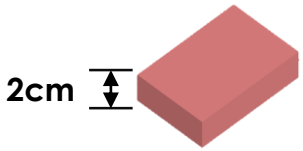
He cannot make the shape more than 10 cubes high as it will topple over. Investigate how many cubes Geoff might use and the possible volume of his shape.

DP

Estimate Volume

1. Katie is packing small boxes of raisins into a large box to ship to the local supermarket.



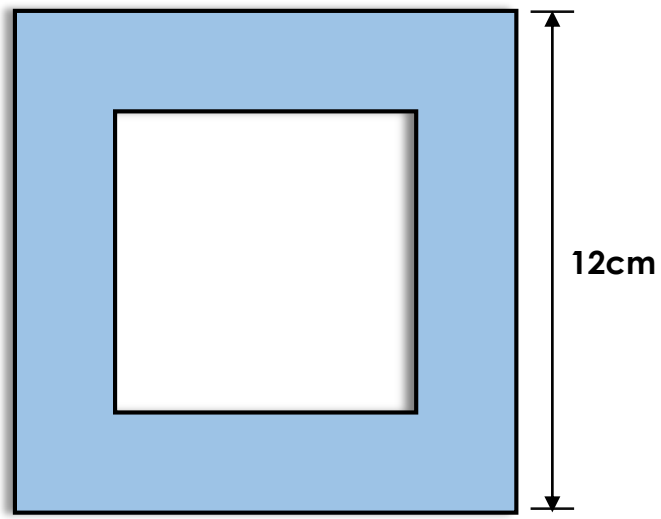


Not to scale

Estimate how many of the boxes of raisins fit into the large box.
Various answers, for example: 150 boxes
Explore the possible dimensions of the large box.
50cm x 50cm x 100cm

DP

2. Geoff is stacking cubes to make a shape. Below is a bird's eye view of the shape he creates.



Not to scale

He cannot make the shape more than 10 cubes high as it will topple over. Investigate how many cubes Geoff might use and the possible volume of his shape.
Various answers, for example: Geoff uses 20 cubes which are 2cm x 2cm x 2cm; therefore, the volume of his shape is 160cm^3.

DP