

## Problem solving and reasoning questions

### Year 5

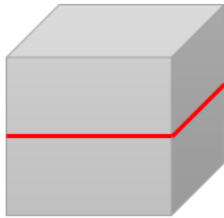
A box exactly holds seventy-five  $1\text{cm}^3$  dice. Inside, it has a square base with sides 5cm. What is its inside height?

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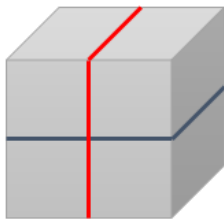
These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

## Year 6

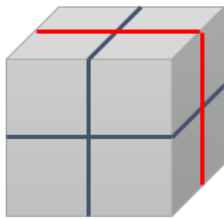
A 6cm x 6cm x 6cm cube is chopped in half three times.  
Find the volume of each cuboid **after each of the three cuts**  
and write the lengths of their edges.



(i) 1<sup>st</sup> cut



(ii) 2<sup>nd</sup> cut



(iii) 3<sup>rd</sup> cut

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These questions should be provided for children to do once the unit has been completed.  
They assess the children's mastery of the skills and concepts in this unit.

## Measures and Data Unit 4

### Problem solving and reasoning **answers**

#### Year 5

A box exactly holds 75  $1\text{cm}^3$  dice. Inside, it has a square base with sides 5cm. What is its inside height? 3cm

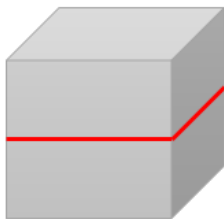
Sketching the box may help. 25 dice fit on the base so it needs to be 3cm high to accommodate 75 cubes.

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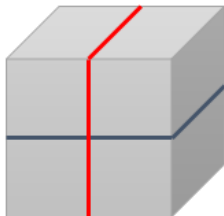
These questions should be provided for children to do once the unit has been completed. They assess the children's mastery of the skills and concepts in this unit.

## Year 6

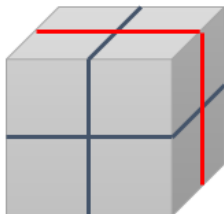
A 6cm x 6cm x 6cm cube is chopped in half three times.  
Find the volume of each cuboid **after each of the three cuts**  
and write the lengths of their edges.



(iv) 1<sup>st</sup> cut



(v) 2<sup>nd</sup> cut



(vi) 3<sup>rd</sup> cut

	number of cuboids	dimensions (cm)	volume of each (cm <sup>3</sup> )
after 1 <sup>st</sup> cut	2	6 x 6 x 3	108
after 2 <sup>nd</sup> cut	4	6 x 3 x 3	54
after 3 <sup>rd</sup> cut	8	3 x 3 x 3	27

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They assess the children's mastery of the skills and concepts in this unit.