

Mathematics

3-D Shape: Problem solving using 2-D representations of 3-D shapes

Ms Jeremy



3-D shape vocabulary

Face

A corner where edges meet.

Edge

A flat or curved surface on a 3-D shape.

Vertex

Corners where edges meet.

Vertices

The area where 2 faces meet.

Apex

The vertex at the top of the shape.



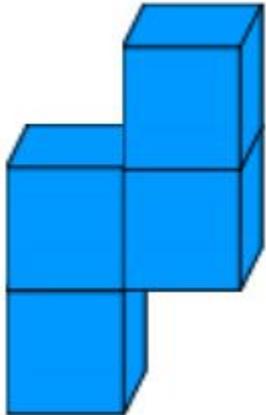


Pause the video to complete your task



Resume once you're finished

Can this shape be represented using a 2-D format?



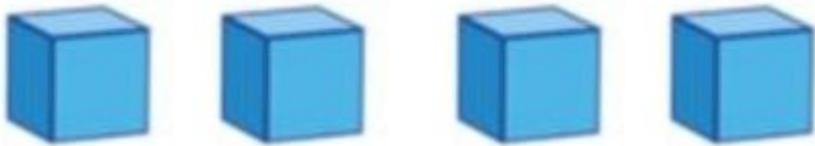
Introducing the problem

Dear pupils,

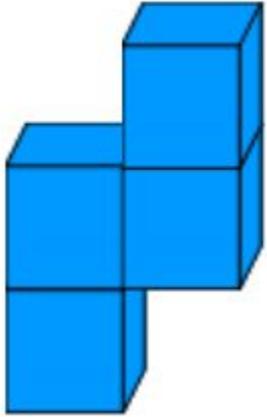
We wondered whether you could design us some homes. **Each home should be made out of 4 cubes and we would like 12 different homes designed.**

Many thanks,

Nevile, Lucy, Simon & Flo



Introducing the problem



For every **1 square of land** used, there will be a cost of **£36**.

For every **cube face exposed**, the paint will cost **£7**.

Squares of land used and total cost	
Cube faces exposed and total cost	
Total cost	



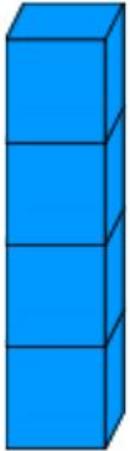


Pause the video to complete your task



Resume once you're finished

Solving the problem



Squares of land used and total cost	
Cube faces exposed and total cost	
Total cost	



Independent Task



Pause the video to complete your task

Resume once you're finished

Create 10 further birdhouse designs and identify the total cost.

- Which design is cheapest?
- Which design is most expensive?

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Squares of land used and total cost	
Cube faces exposed and total cost	
Total cost	



