

# 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.



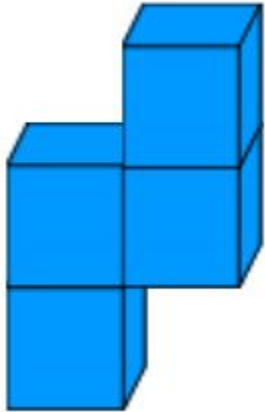


Pause the video to complete your task



Resume once you're finished

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



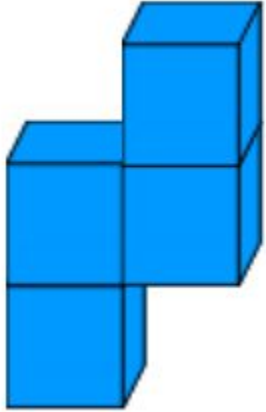
# Introducing the problem

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	



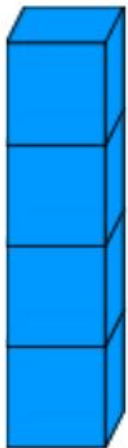


Pause the video to complete your task



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	
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