

Diving into Mastery

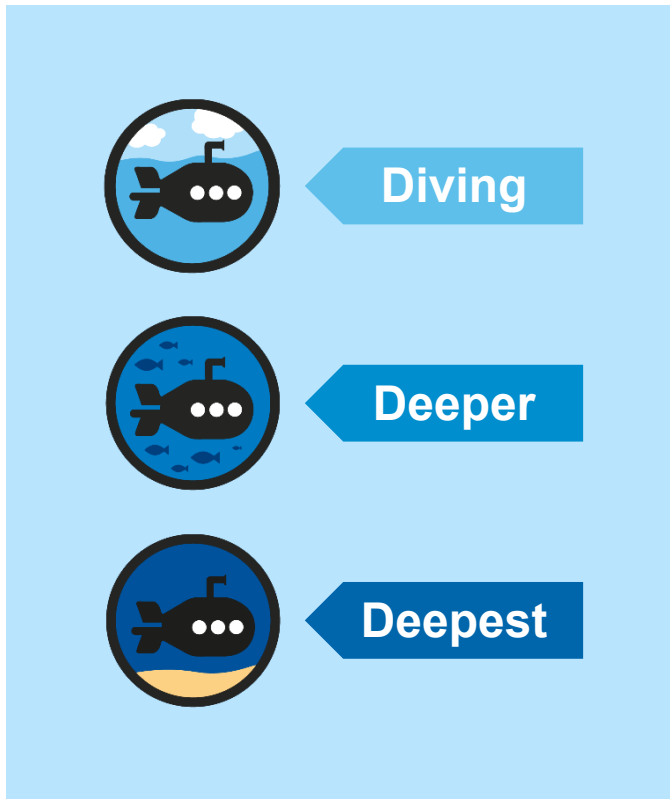


Make 3D Shapes



Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

National Curriculum Objective(s)

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.



Fill in the facts about this 3D alien shape:

Shape name square-based pyramid

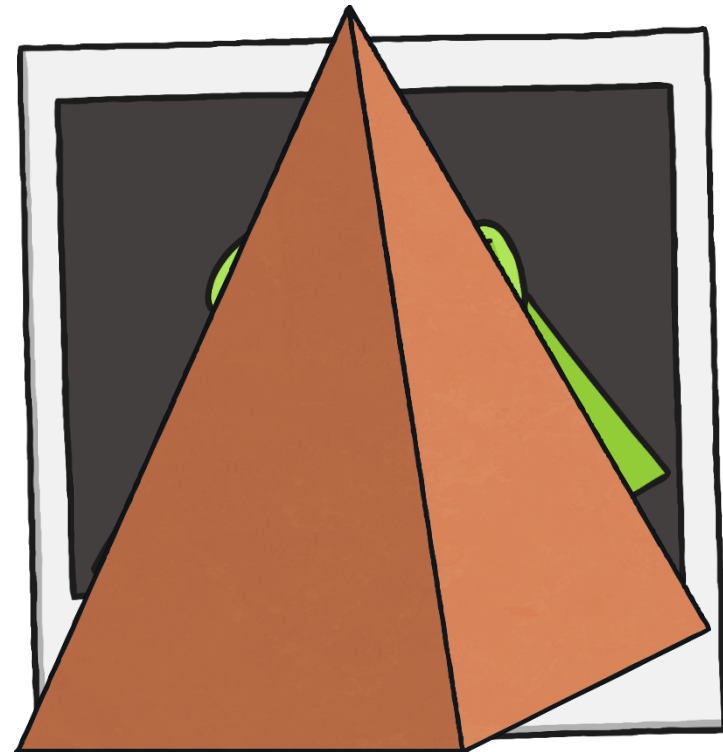
Number of faces: 5

Face shape 1 square and 4 triangles

Number of edges: 8

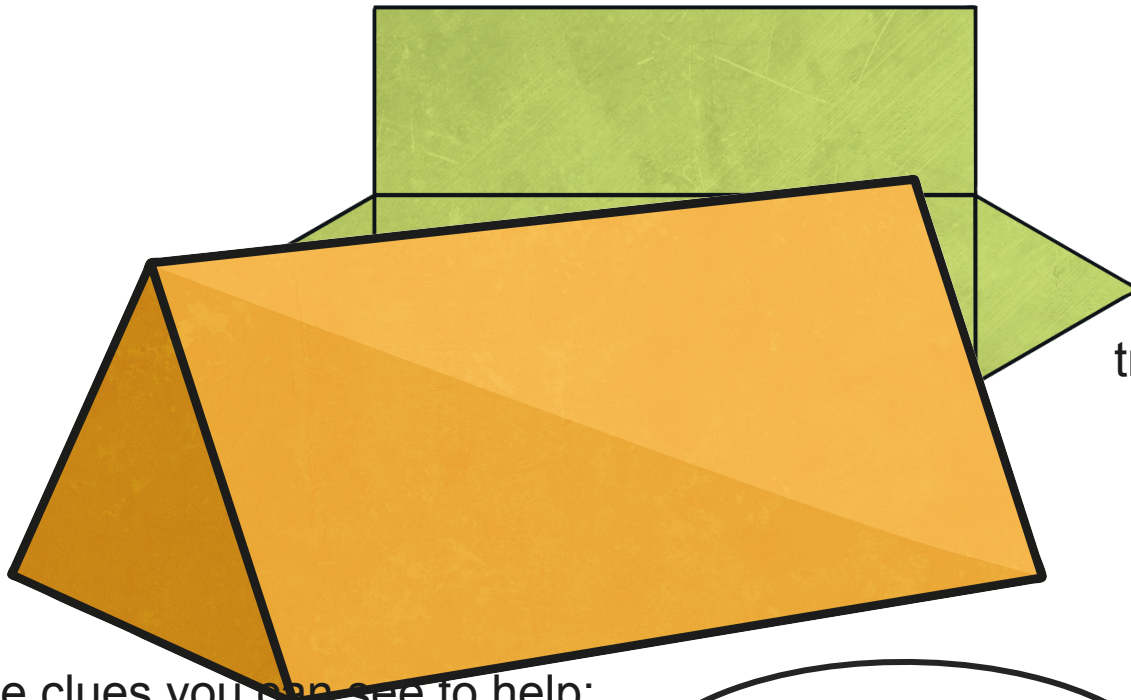
Number of vertices: 5

Curved surface or flat faces or both? flat faces





Look at this net for a 3D shape:

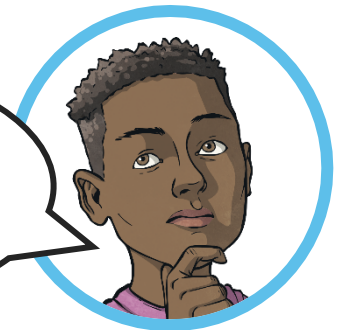


triangular
prism

Use the clues you can see to help:

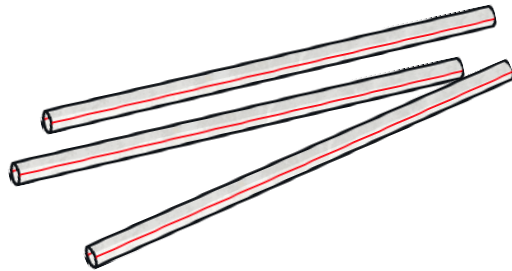
- How many faces does it have?
- What shape are the faces?

Can you identify
the 3D shape it
will make?





We can make 3D shapes from modelling clay and straws as well as nets.



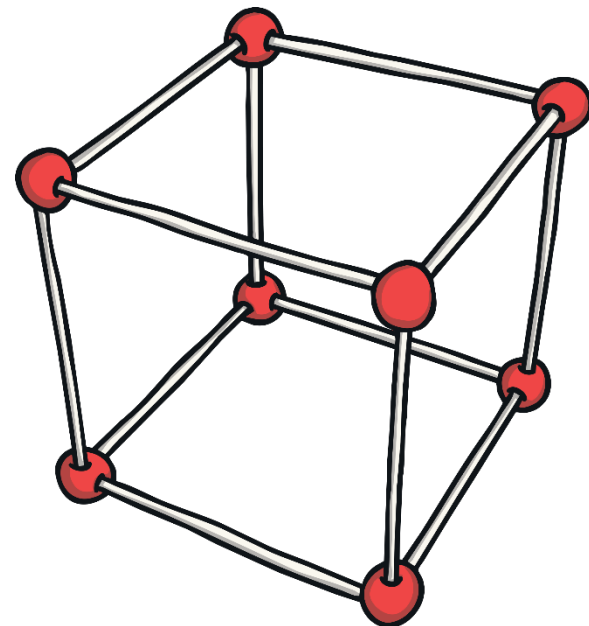
Look at this cube made with clay and straws:

- How many straws would you need to make this model?

12

- How many pieces of modelling clay are needed?

8





We can draw our own 3D shape nets too.

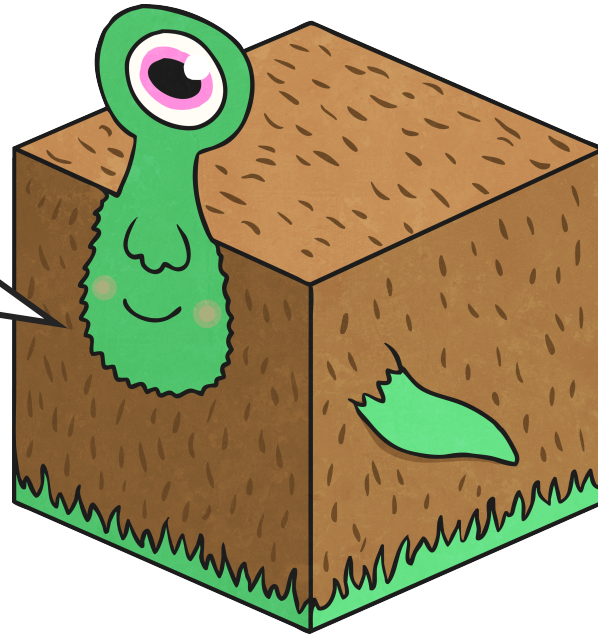


I want to draw a net for a square-based pyramid - how could I fill in the other pieces I would need?

Think about how many faces I need in total, their shapes and which other faces they share an edge with.



3D shapes with
triangular faces are
always pyramids.



Is he right?

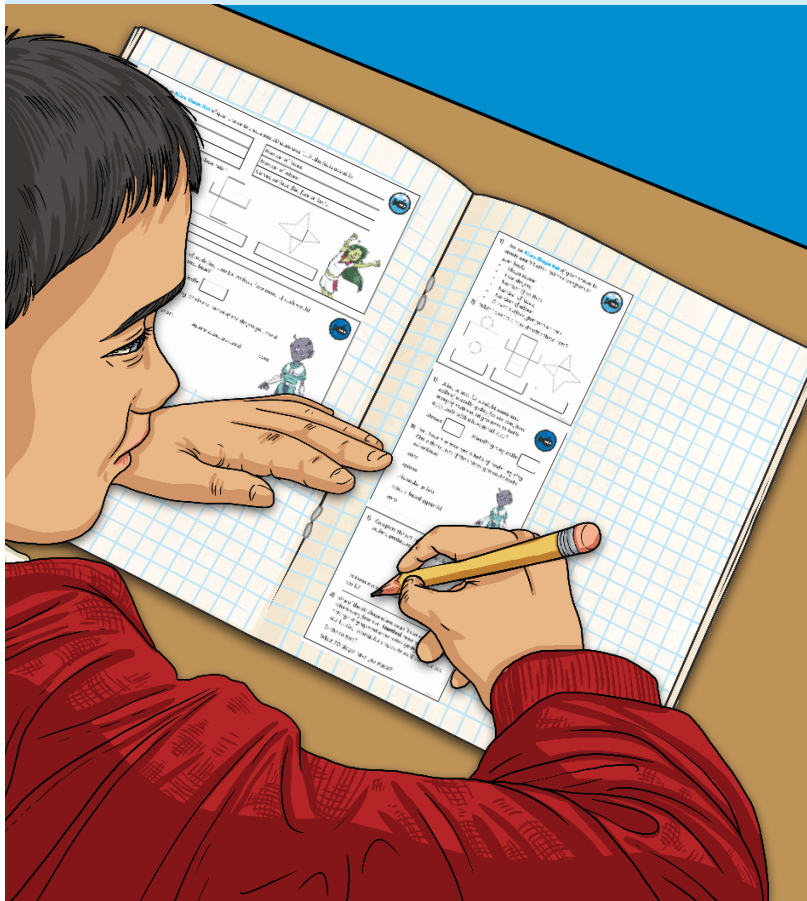
No

Why?

We get triangular prisms and lots of irregular 3D shapes with triangular faces too.

Make 3D Shapes

Dive in by completing your own activity!



1) Use an **Alien Shape Net** to create one 3D alien. Write your facts:

- Shape name:
- Face shapes:
- Number of vertices:
- Number of faces:
- Number of edges:
- Curved surface, flat face or both:

2) Which shapes are made with these nets?

1) Using straws for straight edges and balls of modelling clay for vertices, how many of each would you need to build a pyramid with a hexagonal base?

Straws: Modelling clay balls:

2) You have 8 straws and 6 balls of modelling clay. Circle the names of the shapes you could make using these:

cube sphere triangular prism square-based pyramid cone

1) Complete the net below so that it would make a pentagonal prism when built.

Is there more than one way to complete it that will work?

2) One of the 3D shape aliens where every face is an identical rectangle says:

Is she correct?

What 3D shape have you made? _____

1) Use an **Alien Shape Net** of your choice to create one 3D alien and fill in the facts about it:

Shape name:	Number of faces:
Face shapes:	Number of edges:
Number of vertices:	Curved surface, flat face or both:

2) Which shapes are made with these nets?

1) Using straws for straight edges and balls of modelling clay for vertices, how many of each would you need to build a pyramid with a hexagonal base?

Straws: Modelling clay balls:

2) You have 8 straws and 6 balls of modelling clay. Circle the names of the shapes you could make using these:

cube sphere triangular prism square-based pyramid cone

1) Complete the net below so that it would make a pentagonal prism when built.

Is there more than one way of completing it that will work? _____

2) One of the 3D shape aliens says:

I can make a 3D shape where every face is an identical rectangle.

Investigate this by using squared or isometric (dotted) paper, or interlocking rectangular shapes, to see if she is correct.

Is she correct?

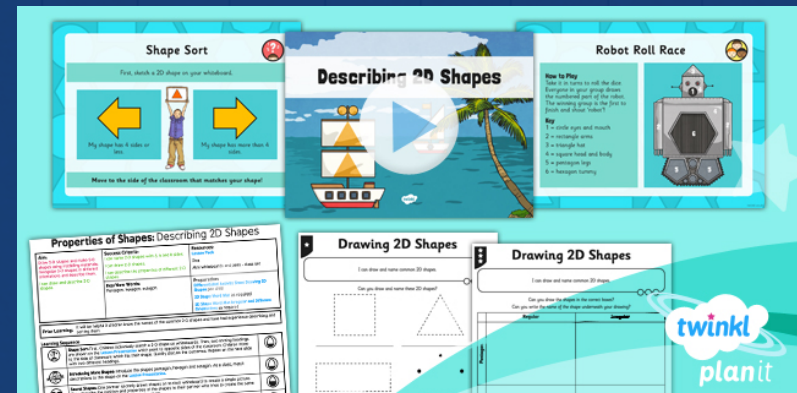
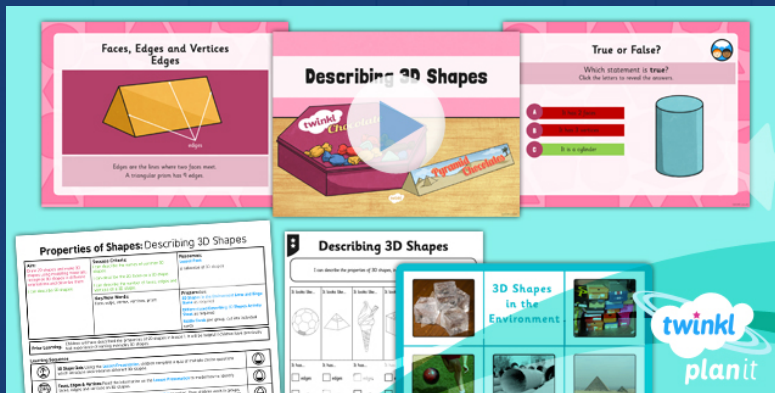
What 3D shape have you made? _____

Need Planning to Complement this Resource?

National Curriculum Aim

Draw 2-D shapes and make 3-D shapes using modelling materials;
recognise 3-D shapes in different orientations and describe them.

For more planning resources to support this aim, [click here](#).



Twinkl PlanIt is our award-winning scheme of work
with over 4000 resources.



