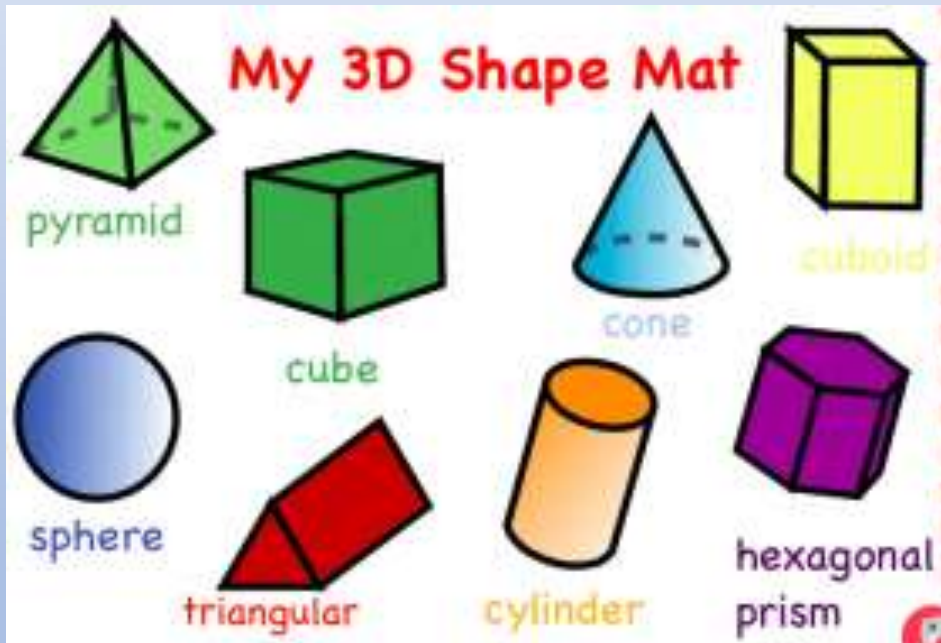


Wednesday Maths

L.O. To recognise and describe 3D shapes.



Mathematical Talk

How many faces/edges/vertices/curved surfaces does a _____ have?

What shape are the faces of a _____?

What types of lines can you see on a _____?

Can you spot objects around the classroom that are cubes/cuboids etc.?

Can you guess the shape from the description given?

Flashback: How much can you remember?

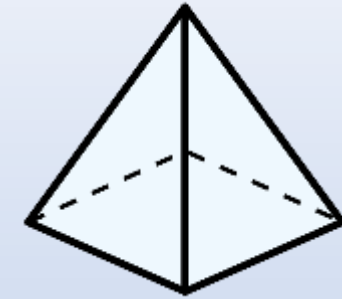
1) How many sides does a hexagon have?

2) Which is the smallest angle?



3) Which is longer, 3 hours or 2 hours and 55 minutes?

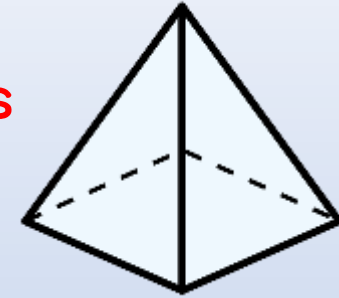
4) What is the total value of the coins?



Flashback: Answers

1) How many sides does a hexagon have?

6 sides



2) Which is the smallest angle?



A

3) Which is longer, 3 hours or 2 hours and 55 minutes?

3 hours

4) What is the total value of the coins?

£2 and 37p

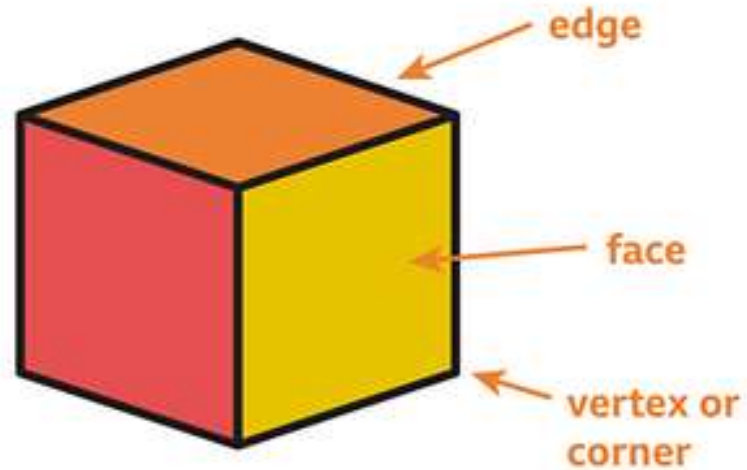


Learn:

Watch this video to give you a good understanding about 3D shapes

<https://vimeo.com/432265088>

3D shapes have three dimensions - length, width and depth. 3D shapes have different properties:



Faces - A face is a flat surface on a 3D shape. For example a cube has 6 faces.

Edges - An edge is where two faces meet. For example a cube has 12 edges.

Vertices - A vertex is a corner where edges meet (the plural is vertices). For example a cube has 8 vertices.

Type of 3D shapes.

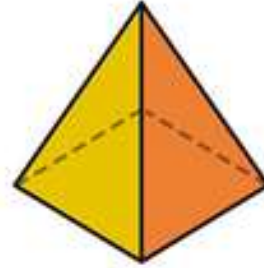


Sphere

Balls are shaped like a sphere.

Properties:

- 1 curved face
- No vertices
- No edges

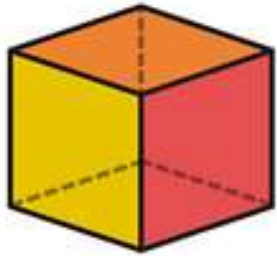


Square-based pyramid

The pyramids in Egypt look like square-based pyramids. They are called square-based pyramids because the face on the bottom is a square.

Properties:

- 5 faces (1 square and 4 triangular)
- 8 edges
- 5 vertices

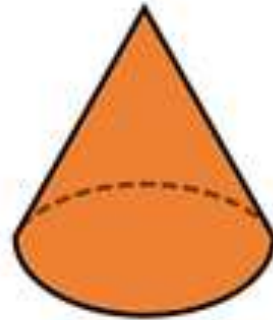


Cube

Dice and sugar cubes are shaped like cubes.

Properties:

- 6 faces (all shaped like squares)
- 12 edges
- 8 vertices

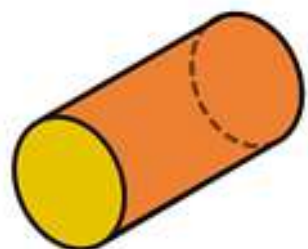


Cone

Ice cream cones, traffic cones and birthday hats are shaped like cones.

Properties:

- 2 faces (1 circular at the base and 1 curved)
- 1 edge around the base
- 1 vertex

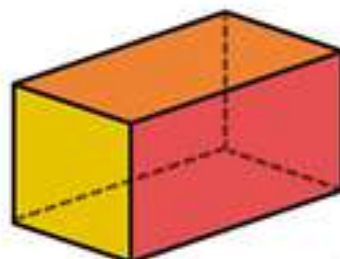


Cylinder

These look like tubes and toilet rolls.

Properties:

- 3 faces (2 circular and 1 curved)
- 2 edges
- 0 vertices

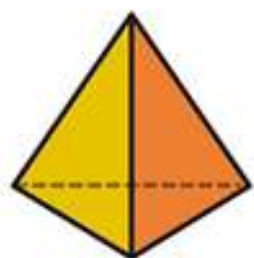


Cuboid

Fridges and wardrobes are usually shaped like cuboids.

Properties:

- 6 faces (all rectangular, or a mixture of rectangles and squares)
- 12 edges
- 8 vertices

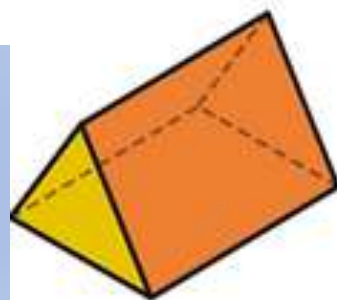


Tetrahedron

A tetrahedron can also be called a triangular-based pyramid.

Properties:

- 4 faces (all triangular)
- 6 edges
- 4 vertices



Triangular prism

Door stops and tents are examples of triangular prisms.

Properties:



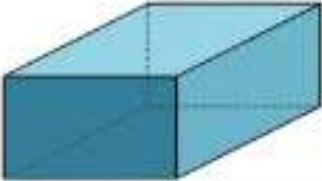
- 5 faces (2 triangular and 4 rectangular)
- 9 edges
- 6 vertices

Your Task: if you have access to the internet test your knowledge here <https://www.bbc.co.uk/bitesize/articles/zwscf82>

See if you can make any 3D shapes out of paper, plasticine, play-doh!

1) Fill in the table with the name of the 3D shape and the number of faces, edges and vertices:



3D Shape	Name	Number of Faces	Number of Edges	Number of Vertices
				
				
				

2) Circle the shapes which have 5 or more vertices:

cube

triangular prism

square-based pyramid

cone

1) Tick the statements that are true and explain your choices:



The faces of a pyramid are always all triangles.



A sphere has zero edges.



A prism always has a rectangular face.



2) A 3D shape has a flat, circular face. What shape could it be?



Challenge:

Mo has a 3-D shape, he says,



One face of my 3-D shape is a square.

What could Mo's shape be?

Alex says,



All 3-D shapes are prisms.

Do you agree with Alex?
Explain why.

Challenge **Answers:**

Possible answers:

Cube

Cuboid

Square based
pyramid

I do not agree with
Alex e.g. cones
pyramids, spheres
are not prisms.