# Properties of 3D Shapes

## cube

| six faces | six square faces |
|---|---|
| eight vertices | twelve edges |
| dihedral angles 90° | platonic solid |
| eight corners | |

## tetrahedron

## octahedron

## dodecahedron

## icosahedron

## cuboid

## sphere

## triangular prism
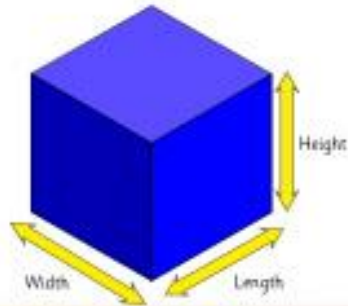
## cylinder

## pyramid

## cone

## hemi-sphere

| two faces | one circular face |
|---|---|
| one edge | no vertices |
| no corners | half a sphere |

## 3D Shapes

Every 3-dimensional shape has three measurements to describe it: **height**, **length** and **width**.

Height

Width                    Length

## 3D Shapes

## Faces

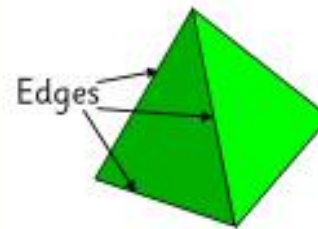A face is one of the flat sides of a three-dimensional shape.
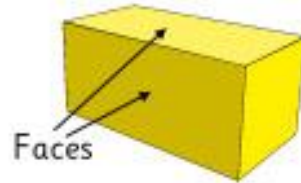
Faces

A cuboid has 6 flat faces. This cuboid has 2 square faces and 4 rectangular faces

## 3D Shapes

## Edges

An edge is the line where two faces touch.

Edges

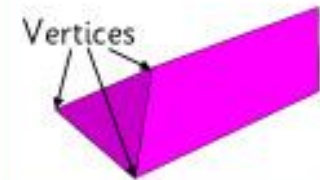A square-based pyramid has 8 edges.

## 3D Shapes

## Vertices

Vertices are the corners of a 3D shape, where three or more edges meet. A single corner is called a **vertex**.

Vertices

A triangular prism has 6 vertices.

## 3D Shapes

## Prisms

The two opposite faces are the same shape.

If you cut a prism anywhere along its length, the two opposite faces will remain the same shape and size as the original.

## 3D Shapes

## Prisms
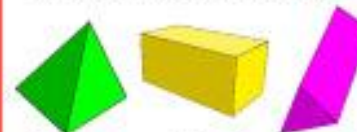
A prism always has the same shape at either end.

A prism will always have rectangular faces on the sides.

## 3D Shapes

## Polyhedrons

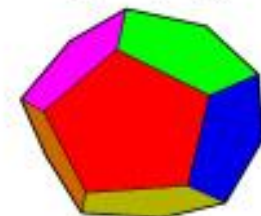Polyhedron is a 3D shape with flat faces and straight edges.

A **regular polyhedron** is a 3D shape with all the faces the same shape.

## 3D Shapes

## Dodecahedrons

This is a **dodecahedron**. It is a regular polyhedron.

Its 12 faces are all regular pentagons.