Year 3 Maths
Steppingstone activity

Lesson 25
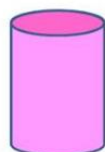**LO: To count edges and vertices on 3D shapes**

Success Criteria:

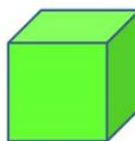| |
|---|
| 1. Look around your house for examples of each 3D shape. |
| 2. Count the edges - mark each edge with blue-tac or another way to avoid counting them twice |
| 3. Count the vertices - mark each vertex with blue-tac or another way to avoid counting them twice |

3D shapes

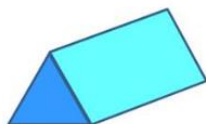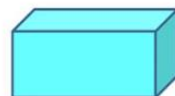Cone   Cylinder   Sphere   Square Based Pyramid

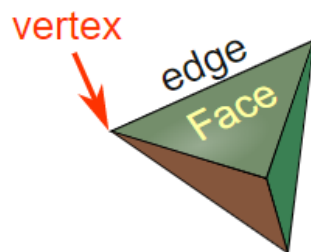Cube   Triangular Prism   Triangular Based Pyramid   Cuboid

An **edge** is where 2 faces meet or where a face and a curved surface meet (e.g. a cone).

vertex
edge
Face

A **vertex** is where 2 or more edges meet.

Task: Get the 3D shapes you found on your shape hunt last lesson.

Count the edges and record them in a chart like this.

Then **count the vertices** and record them in the chart.

Use your chart from last lesson to fill in the **number of faces** too.
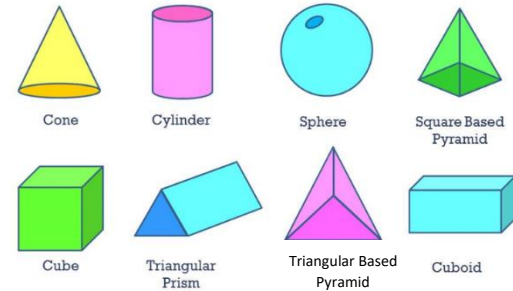
Shape	Name	Faces	Edges	Vertices

3D shapes

Cone · Cylinder · Sphere · Square Based Pyramid
Cube · Triangular Prism · Triangular Based Pyramid · Cuboid

Year 3 Maths

Lesson 25

LO: To construct 3D shapes

Success Criteria:

1. Look around your house for examples of each 3D shape.
2. Study its faces, edges and vertices
3. Make a model of the 3D shape (e.g. using clay, playdough, straws, spaghetti, K'nex) and describe it.

Task:

1. Get the 3D shapes you found on your shape hunt last lesson.
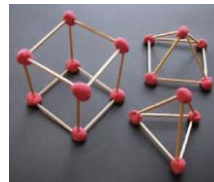
Look at them carefully:

How many faces? What shape?

How many edges? Curved or straight?

How many vertices?

2. Now choose at least 3 of your 3D shapes to make a model of.

You can use any equipment or materials you have around you e.g. clay, playdough, straws, spaghetti, K'nex, Meccano.

When you have made your shape, check it has the same properties as your object (i.e. correct shaped faces, number of vertices etc.)

Model:
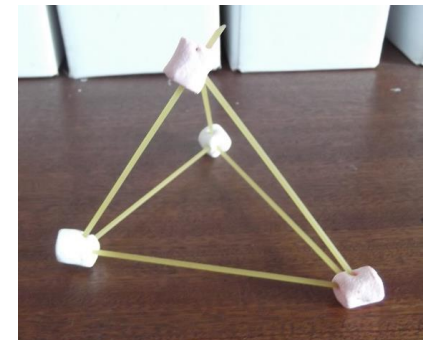
Describe this 3D shape:

This shape is a **triangular based pyramid.**

It has **4 triangular faces**.

It has **6 straight edges.**

It has **4 vertices.**

Made from spaghetti and marshmallows!

Task 1	Task 2
## Problem solving	## Reasoning

Task 1 — Problem solving

I have 9 straws and 6 balls of Play-Doh.

What 3-D shape can I create using all of the straws and Play-Doh? Have a go at making it.

Task 2 — Reasoning

Rosie says,

I can create a model of a square-based pyramid using 3 straws and 3 balls of Play-Doh.

Explain the mistake Rosie has made.

How many straws and balls of Play-Doh would you need to create a pyramid?