

## Unit: 5.6

### 3D Modelling

#### Key Learning

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

#### Key Resources



2D&M

#### Key Vocabulary

##### CAD – Computer aided Design

A CAD computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles.

##### Modelling

The activity of making models.

##### 3D

Something that has three dimensions; height, width and depth.

##### Viewpoint

A person's opinion or point of view.

##### Polygon

An object with at least three straight sides and angles, and typically five or more.

##### 2D

Something that has only two dimensions; height and width.

##### Net

A pattern that you can cut and fold to make a model of a solid shape.

##### 3D Printing

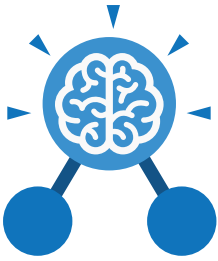
The action or process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession.

##### Points

An exact position or location on a 2D surface.

##### Template

Something that serves as a model for others to copy.



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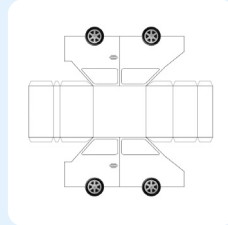
#### Key Images



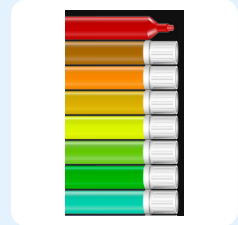
2D Image



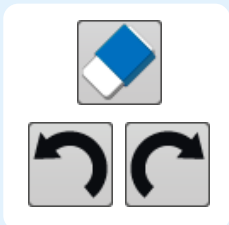
3D Image



Net View



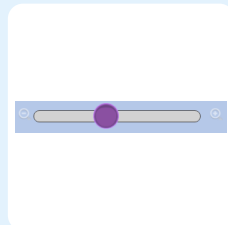
Colour Palette



Clear, Undo and Redo



Fill Options



Magnify

#### Key Questions

**What are the different view of an object available in 2Design and Make?**

Net, Points and 3D.

**How can the objects designed in 2Design and Make be turned into 3D objects?**

You can print the net and then cut and fold this into shape or you can convert the file into a format recognised by 3D printers.

**How is CAD software used in industry? Give some examples.**

It is used to design 3D objects in a 2D environment.

Some examples are; Architectural plans for buildings; designing layouts for interiors; designing objects such as packaging and designing mechanical components; designing shoes and clothing.