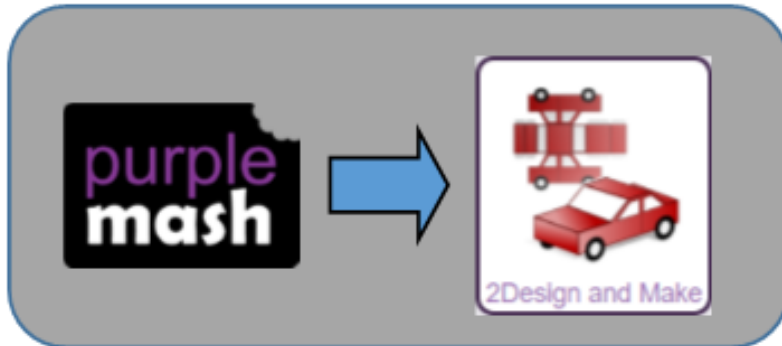## Unit: 5.6 – 3D modelling

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 understand designing for a purpose.

To understand printing and making.

Key Resources

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 2Dsurface.

Template - Something that serves as a model for others to copy.
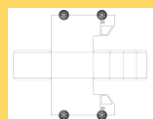
Key Images

2D Image
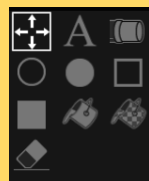
3D Image

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?

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.