KNOWLEDGE

Year 6 Computing – 3D Modelling

What I should already know

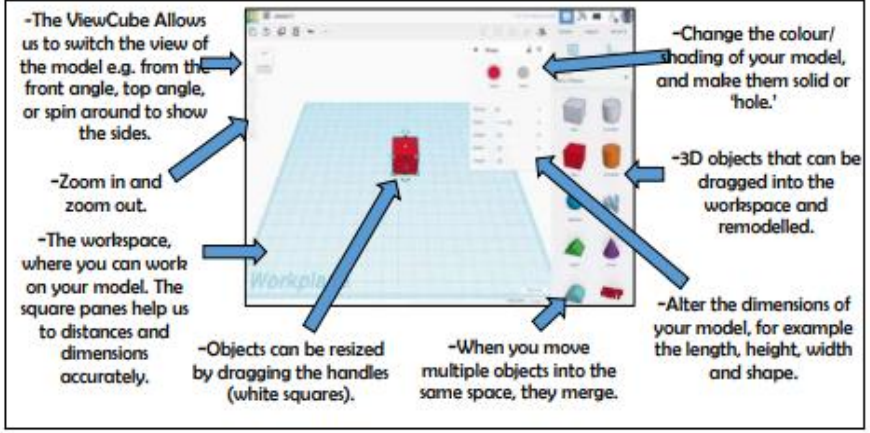
- 3D means three-dimensional, or having 3 dimensions. For example, a box is a 3D shape, whereas a square is a 2D shape.
- How to problem solve with shapes – understanding how design choices impact functionality or appearance of objects/space.
- How to use simple drawing and design tools (e.g. Microsoft paint)

Disciplinary Skills

- Select, use, and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems, and content that accomplish given goals, including collecting, analysing, evaluating, and presenting data and information
- Use technology safely, respectfully, and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
- I can describe strategies for keeping my personal information private, depending on context

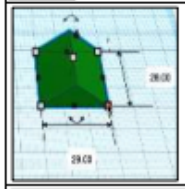
The Basics of 3D Modelling

'Tinkercad' is one example of software that we can use to create 3D Models. Other examples include 'CAD for Kids' and 'Sketchup 3D.'



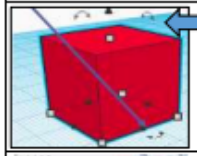
More Advanced Techniques

Duplicating: Click and drag around an object to ensure that it is selected. Then, click on the duplicate icon (see left) to create a copy.



Resizing: Objects can be manually resized by clicking and dragging on the handles around them. The dimensions are labelled.

Lifting: Use the ViewCube to change the viewing angle of the model to the front/ side. Then, use the cone handle in order to lift the object from the workspace.



Rotating: Selecting these handles allows us to rotate shapes. Drag the object to rotate it in different ways.

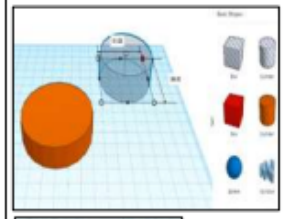
Combining Shapes Many complex shapes are made up of a number of 3D shapes – we can position and merge them together.

Text: You can add block text by selecting 'text' in the shapes. This can help you to enhance other shapes.

What I will learn by the end of this unit

-How to use a computer to produce 3D models.
- Working in a 3D space, moving, resizing, and duplicating objects.
- 3D modelling involves using computer software to create 3D shapes, in order to produce models of realworld objects.
-3D modelling allows us to view designs from different angles and experiment with various designs.
-3D modelling is used in many industries, e.g. in interior design, architecture and making video games.

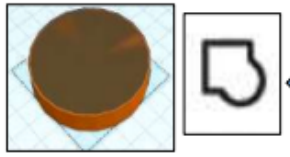
Making Holes



Holes: Sometimes we need to create objects that are not solid – they have space inside/ within them.

-To achieve this, begin by adding a 3D shape onto the workspace. Then drag one of the 'holes' shapes onto the workspace. Adjust dimensions accordingly.

-Drag the 'holes' shape over the 3D shape as desired.



-Click and drag a box around the shapes to select them.

-Click the 'group' button to combine the shapes and create the hole.

Key Vocabulary

Modelling	Three-dimensional	Workspace	Faces
Vertices	Edges	Handles	Duplicate
Hole			

ORGANISER