Holmer C of E Academy

Year 6 – 3D Modelling – Autumn 2

What should I already know?

- Add and remove objects to create a drawing that represents a chosen artefact
- Use copy and paste to maintain consistency within the drawing
- Manipulate an object's size, colour, and proportion to represent a chosen artefact
- Purposefully position and rotate objects
- Move objects to different layers to create a specific aspect of a drawing
- Manipulate multiple objects concurrently
- Group objects to make them easier to work with

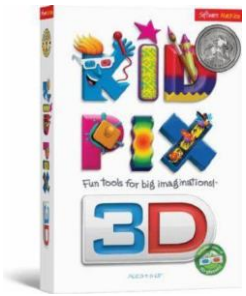
What will I know by the end of the unit?

- Can explain the similarities and differences to 2D and 3D modelling
- Explain why we might represent 3D objects on a computer
- Can select, move and delete a digital 3D shape
- Identify how graphical objects can be modified
- Can resize a 3D object
- Change colour of a 3D object
- Rotate a 3D object
- Position a 3D object in relation to others

Vocabulary

Tinkercad	3D modelling software which is free and you just have to sign up for them.
Resizing	Using a specific function to enter values in or to use two fingers making a 3D shape lareger and smaller.
Lifting	Moving a 3D shape so that it is above and can be placed on another £D shape
Altering	Changing a 3D shape so that fits specific parameters
placeholders	Locking a shape into a specific position so that it does not move.
rotating	Moving a shape on a workplane so that they can be viewed from different angles and checked for error within the design
dimensions	The measures which are used to create a specific item
Workplane	A flat 2D area where a design can be positioned so that it can guide and be used to check

<u>Relevant Reads</u>



• Select and duplicate multiple 3D objects • Identify the 3D shapes needed to create a model of a real world object. • Create digital 3D objects of an appropriate size. • Group digital 3D shape and a placeholder to create a hole in an object. • Plan a 3D model • Choose which 3D objects I need to construct for my model • Modify multiple 3D objects • Decide how my model can be improved • Modify my model to improve it • Evaluate my model against a given criteria	

Curriculum links

National curriculum links

Computing – KS2

- 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

Art and design – KS2

- To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials

Design and technology – KS2

- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Mathematics – KS2 (Y6)

- Recognise, describe and build simple 3D shapes, including making nets

Education for a Connected World links

Strand

- Lesson 1 and Lesson 3 – Privacy and Security (Y4) – I can describe strategies for keeping my personal information private, depending on context

1. . When designing a key ring, what is the 3D shape that the rest of your key ring design 'sits' on?	
2. How do you group 3D shapes together? Explain	
3. What is a placeholder? Why do we use them?	