Subject: Computing

Year group: 6

Term: Summer Term

Unit name: 3D modelling

Compassion

When Jesus arrived, he saw a large crowd. He felt sorry for them and healed those who were sick.

Matthew 14:14
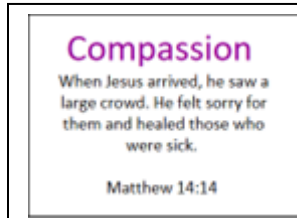
TIN KER CAD

Vocabulary	
Manipulate	Un-do
CAD software	Construct
3D printing	Duplicate
Resize	Move
Lift	object
Alter	evaluate
Alignment	design
Rotated	adjust

Big idea: To plan, develop and evaluate a 3D model.

In this unit, children will use Tinkercad to combine 3d objects to make a house, moving on to make accurate 3d models of physical objects and then finally combine the skills to plan, develop and evaluate for example a photo frame.

Progression of skills :

Shows an awareness of tasks best completed by humans or computers.

Selects, manipulates and evaluates software to create content.

Applies their understanding of computing to program, monitor and control their product.

Uses criteria to evaluate the quality of solutions, can identify improvements making some refinements to the solution, and future solutions.

Prior learning:
Children should have experience of working with 2d graphics.

Year 4 photo editing
Here children used tools to create images to achieve a specific effect, including layering.

Year 5 Vector drawings
In this unit children will have produced their own vector images for a given purpose. They use skills such as layering and tools such as rotate, alignment grids and resizing.

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

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

Key learning assessment statements:

Create a range of 3d shapes that can be selected, moved and deleted. Examine the shapes from a range of views.

Use resizing, duplicating, and rotating to create a 3d visual of a house. Add colour.

Plan and create a 3d model of a eg.photo frame/pencil pot using Tinkercad, deciding which objects will be needed to construct the model.

Evaluate their product and suggest improvements.

Potential links can be made with local secondary schools for 3D printing

For this sequence of lessons, children can use Tinkercad (https://www.tinkercad.com). They will need accounts to save their work and access the resources (check with AM). It is recommended that teachers sign up for an account at https://www.tinkercad.com/join, which enables learner accounts to be created and the website accessed with a Class Code. NCCE planning can be used as a resource.

Alternatively, pupils can use 2 design and make on Purple Mash. However, this limits what you can make.