



Modelling with SketchUp

Module Description

Unit Overview

Target Year Group: Year 7
Lessons: 8 lessons + project

This unit is designed to give pupils a basic introduction to the functions and features of modern 3D CAD design applications, such as Google SketchUp. The pupils will then gain experience of using these applications to model.

Relevant Prior Knowledge

Pupils will be familiar with File Operations, such as file save, open, new, etc.

Resources Required

List of Videos
List Worksheets
List of Surveys

Key Terms:

Assessment Plan

Formative Assessment will occur through starters, in-lesson questioning, walk about questions and plenary questions.

Summative Assessment will be based on homework.

Summative Assessments will be based against the Mastery Plan detailed below.

Support and Extension

New Pupils will be brought up to speed through the use of class room videos.

Low attainment pupils will be paired with High attaining pupils in the "Oxygen Mask" strategy.

Cross Curricular Links



Mastery Matrix

Pupils will be leveled according their ability to demonstrate the skills contained in to the following table:

	Level 3	Level 4	Level 5	Level 6
	Novice	Beginner	Competent	Expert
Basic Controls	Able to draw 2D polygons and arcs.	Able to draw 3 dimensional polygons using the extrude function.	Able to accurately measure and place objects	
Measurement and placement	Able to accurately measure dimensions using the tape measure function.	Able to create accurate guidelines using the tape measure function.	Able to accurately align and place objects.	
Advanced Functions		Able to demonstrate the rotate function.	Able to demonstrate inset, scale and skew functions.	
Plans		Able to produce a model that is similar to a floor plan.	Able to produce Models that map exactly to floor and Building Plans	Able to design plans that meet requirements, prior to creating a model meeting the plan.
Components		Able to create and use components in their model	Able to combine components into larger components	
Analysis	Able to calculate the dimensions of a model.	Able to calculate the calculate the floor area of a model.	Able to calculate surface area of a model.	Able to estimate cost of materials for a model, based on assumed prices.
Digital Literacy	Able to demonstrate their model using textual descriptions.	Able to demonstrate their model using screen shots and descriptions.	Able to demonstrate their model using a combination of video, screenshots and text.	Able to demonstrate their model using a combination of video, voice, screenshot and text.

Teacher Feedback
Pupil Comment

Lesson Overview.

#	Title	LO Fertile Question	Key Activities	H/W / Summative Assessment
1	Introduction to SketchUp	Introduce Pupils to key concepts of SketchUp. “How do I get up and running?”	Open, New, Save. Draw A House	How many bricks and Tiles to create your house?
2	Measure Accurately			
3	Scale, Skew, Move, Rotate			
4	Components			
5	Floor Plans			
6	Analysis		Area, Volume, Surface Area and Ratios	
7	Castle 1			Motte and Bailey
8	Castle 2			Medieval