



Year 9 Product Design

Students have 5 lesson per cycle/fortnight. Homework is set once a week			
Term	Topic and approximate duration	Key learning areas Students should be able to:	Homework Options Students will be guided by the class teacher as to which level to complete (according to target level)
Autumn Term	Skills Project: Drawing Skills (7 weeks)	Students begin to learn the drawing techniques needed to produce an isometric shape, beginning with 2D and moving into 3D. This is then explored through CAD where students learn to create isometric shapes in 2D Design. Students learn Orthographic projection, and 1 and 2 point perspective. Throughout the project work, students are beginning to explore the Core Theory GCSE content.	Task 1 – Isometric circles Task 2 – Preparation for interim assessment Task 3 – Assessed homework: Drawing Skills- point perspective Task 4 – Landmark Revision: Drawing skills
	Nature of landmark assessment	Drawing Skills	
	Skills Project: CAD CAM Motions and Mechanisms (8 weeks)	Students begin to learn practical skills within this project of making a mechanical toy. Wood joining techniques such as finger joints, and descriptive uses of tools and equipment are learnt. A more in depth understanding of 2D design is learnt through the construction of a mechanical follower with levers and linkages learnt. A gear/crank and slide investigation is explored through the use of velocity ratio. Throughout the project work, students are learning Core Theory GCSE content.	Task 6 – Tools and Equipment Task 7 – Preparation for interim assessment Task 8 – Assessed homework: Follower Design Task 9 – Landmark Revision Task 10 – Forces & Motions
	Nature of landmark assessment	Core Theory Exam Style Questions	
Spring Term	Skills Project: Architectural Model (6 weeks)	Students learn how to communicate in a 3D virtual space using Sketch-Up. Students will begin with a simple architectural house, and develop the model with components and detail throughout the project. An interior is expected to be modelled with the addition of meticulously planned kitchen. Throughout the project work, students are learning Core Theory GCSE content.	Task 1 – Annotations of initial ideas Task 2 – Assessed homework: Virtual modelling Task 3 – Virtual reality Task 4 –Landmark Revision: Sketch-Up

Spring Term	Nature of landmark assessment	Final Virtual Model with Annotations	
	Skills Project: Photoshop Techniques (6 weeks)	Students learn the fundamental commands and settings within Adobe Photoshop. Throughout the project students learn different techniques to image manipulation, creating a story board within the theme of Toy Story. Layers are to be created, and filters and effects added to each image. Throughout the project work, students are learning Core Theory GCSE content.	Task 5 – Core Theory exam style questions Task 6 – Command words, meaning and description Task 7 –Photoshop questions worksheet
	Nature of landmark assessment	Photoshop Practical Design Outcome	
Summer Term	Skills Project: Practical Skills Board (5 weeks)	The first half of the term will focus on revision to enable students to prepare successfully for their end of year technology exam. The content is revisited through the core theory lessons and guided home learning. The second half of the term students are introduced to their practical project of a skills board exploring metal work, such as pop riveting and pewter casting.	Task 1 – Guided revision Task 2 – Guided revision Task 3 – Individual improvement prompts Task 4 – Individual improvement prompts
	Nature of landmark assessment	End of Year Exam: Practice Paper	
	Skills Project: Practical Skills Board (7 weeks)	In the final term students are continuing with the skills boards, exploring wood work with specific carpentry joints such as finger joints, mitre joints, and lap joints. Plastic work using and modifying acrylic, and with the introduction of using a vacuum former to create a mould. Students are introduced to different manufacturing processes, and the theory content behind the materials they are working with. Throughout the project, students are learning Core Theory GCSE content.	Task 5 – Assessed homework: Fossil fuels theory questions Task 6 – Guess the manufacturing techniques Task 7 – Manufacturing processes table Task 8 – Landmark Revision (worksheet).
	Nature of landmark assessment	Skills Board Practical Outcome	