



KS4 Curriculum Content

Design

&

Technology

Year 10	Half Term 1 September - October	Half Term 2 October - December	Half Term 3 January - February
	<p>Topic 3D Printing a Pen Holder</p> <p>Knowledge Students learn about the impact of new and emerging technologies, such as 3D printing and the impact they have on the world. Students learn about smart and modern materials as well as the ecological footprint we leave behind as designers. Students will also develop their knowledge of SolidWorks and use this to create a 3 dimensional model that will be 3D printed.</p> <p>Skills SolidWorks (3D, mathematical modelling). 3D printing. Exam technique.</p> <p>Assessment Assessment of design and practical work as well as multiple choice and extended-writing exam style questions.</p>		<p>Topic: Dyson Cardboard Chair Challenge</p> <p>Knowledge: Students work individually and as part of a team in order to design and make a chair that is completely made out of cardboard. The challenge is that there is no glue, sellotape or string allowed and it must hold their teacher! In order to do this, students will have to understand the different forces and stresses and how materials can be reinforced and stiffened. In order to generate design ideas, students will learn to scale model and work effectively as part of a team.</p> <p>Skills: Working as a team, developing construction techniques, modelling and testing. Exam technique.</p>
Vocabulary Links	Energy, development, materials, technology, product, industry, user, sustainability, electronic systems, properties, commercial, social factors, moral factors, cultural factors, economic factors, usability, finite, inclusive design, renewable energy, board, timber, manufactured boards, ferrous metals, non-ferrous metals, polymers, hardwood and softwood.		Energy, development, materials, technology, product, industry, user, sustainability, electronic systems, properties, commercial, social factors, moral factors, cultural factors, economic factors, usability, finite, inclusive design, renewable energy, board, timber, manufactured boards, ferrous metals, non-ferrous metals, polymers, hardwood and softwood.
AQA Assessment Objectives	Specification: AQA Design and Technology. Specification code: 8552 QAN code: 603/0984/2		Specification: AQA Design and Technology. Specification code: 8552 QAN code: 603/0984/2
Year 10	Half Term 4 February – March	Half Term 5 April - May	Half Term 6 June - July
	<p>Topic: Batch Production Project – Coat Hanger</p> <p>Knowledge: Students will learn to select appropriate materials from standard stock forms. They will also learn that they can adjust the properties of materials, making</p>	<p>Topic: Practice Controlled Assessment</p> <p>Knowledge: This unit of work is designed to give students a clear understanding of what is required when they carry out their GCSE Controlled Assessment project. They will also</p>	<p>Topic: NEA Coursework. The exam board releases the GCSE “contextual challenge” 1st June.</p> <p>Knowledge: Detailed understanding of the requirements of the NEA, mark scheme and tracker monitoring progress.</p>

	<p>them perform as required. In order to learn these skills, students will make a batch of laminated birch plywood coat hangers with a heat treated (annealed) steel hook. In order to ensure batch consistency, they will learn about and use quality control methods such as jigs, moulds, formers etc.</p> <p>Skills: Developing skills in CAD, CAM especially Solid works and 3D printer. Exam technique.</p> <p>Topic: Exam Preparation Knowledge: Detailed understanding of the requirements of the exam and awareness of mark schemes. Skills: Exam technique, memory retention, revision.</p>	<p>understand the mark schemes better and how marks are applied.</p> <p>Skills: Developing a variety of design, modelling and construction techniques in a variety of materials using a range of tools and techniques.</p> <p>Topic: Exam Preparation Knowledge: Detailed understanding of the requirements of the exam and awareness of mark schemes. Skills: Exam technique, memory retention, revision.</p>	<p>Skills: Independent learning skills, evaluative techniques in order to track whether work is meeting expected standards, time management (meeting deadlines).</p> <p>Topic: Exam Preparation Knowledge: Detailed understanding of the requirements of the exam and awareness of mark schemes. Skills: Exam technique, memory retention, revision.</p>
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Year 11	Half Term 1 September - October	Half Term 2 October - December	Half Term 3 January - February
	<p>Topic: NEA Coursework Continued. The exam board releases the GCSE “contextual challenge” 1st June of Y10. Knowledge: Detailed understanding of the requirements of the NEA, mark scheme and tracker monitoring progress. Skills: Independent learning skills, evaluative techniques in order to track whether work is meeting expected standards, time management (meeting deadlines).</p>		
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Year 11	Half Term 4 February – March	Half Term 5 April - May	Half Term 6 June - July
	<p>Topic: Completion of NEA Coursework Continued. The exam board releases the GCSE “contextual challenge” 1st June of Year 10.</p> <p>Knowledge: Detailed understanding of the requirements of the NEA, mark scheme and tracker monitoring progress.</p> <p>Skills: Independent learning skills, evaluative techniques in order to track whether work is meeting expected standards, time management (meeting deadlines).</p> <p>Topic: Exam Preparation</p> <p>Knowledge: Detailed understanding of the requirements of the exam and awareness of mark schemes.</p> <p>Skills: Exam technique, memory retention, revision.</p>	<p>Topic: Exam Preparation</p> <p>Knowledge: Detailed understanding of the requirements of the exam and awareness of mark schemes.</p> <p>Skills: Exam technique, memory retention, revision.</p>	N/A: Course finished.
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