

DESIGN TECHNOLOGY - INFORMATION FOR PARENTS

	Project 1	Project 2	Project 3
YEAR 7	<p>CAD / CAM: Ruler: Students will develop key manufacturing concepts of CAD/CAM, developing a range of design techniques on the CAD software and operating the laser cutter. Students will be working with precision and accuracy of 1mm. Students will be learning how the use of plastics impact the environment.</p>	<p>Woodwork: Novelty Door stop: Students will be learning about the categories of timbers and the effect deforestation has on the environment. Students will be learning how to draw 3D using the oblique method. Students will then use a range of hand tools, machines and equipment to produce their product to a high standard.</p>	<p>Textiles: Ugly Doll: Students will be learning about different textile materials, where they come from and how they are made. Students will develop design ideas for specific users. Students will learn a range of stitching techniques and develop sewing skills to produce a high quality comfort toy.</p>
Revision Resources	Yr 7 T1 Revision List	Yr 7 T2 Revision List	Yr 7 T3 Revision List
Knowledge Organiser	Yr7 T1 Knowledge Organiser	Yr 7 T2 Knowledge Organisers	Yr 7 T3 Knowledge Organisers
YEAR 8	<p>Architecture: Art Movement Clock: Students will study and learn about different historical art movements, they will develop their 3D design skills, focusing specifically on rendering techniques. Students will then use a combination of CAD/CAM and machines to produce a clock in the style of their chosen art movement.</p>	<p>Woodwork: Multimedia Desk Organiser: Students will study further detail the effects of deforestation and timber classification and uses. Students will develop their 3D drawing techniques, focusing on the quality of annotation. Students will use a combination of Tools, machines and equipment to produce their product, combining 3 different parts together. This project develops function and design.</p>	<p>Metal work: Pewter Keyring: Students will study the three categories of metals, developing an understanding of material properties and how they can be used. Students will then progress into retrieving their CAD/CAM skills to produce a template, operating the laser cutter. Students will then work with the brazing hearth to convert metal to liquid and casting their design. Finally students will develop metal work finishing skills and packaging for their product.</p>
Revision Resources	Yr 8 T1 Revision List	Yr 8 T2 Revision List	Yr 8 T3 Revision List
Knowledge Organiser	Yr 8 T1 Knowledge Organisers	Yr 8 T2 Knowledge Organisers	Yr 8 T3 Knowledge Organisers
YEAR 9	<p>Design: Biomimicry: Students are to develop and knowledge and understanding of a design strategy based on designing from the influence of nature. Students will understand the different forms this can take and real life examples. Students will develop designing on A3 paper, creating a concept design and developing presentation skills, including layout, design, colour and effects.</p>	<p>CAD/CAM : Novelty Ergonomic Pen: Students will develop a secure knowledge and understanding of the key terms ergonomics and anthropometrics and will be able to apply these concepts to real life products. Students will develop their 3D drawing techniques and ability to annotate in detail, before transferring onto Techsoft 2D Design. Students will use a range of design tools on the software to produce their pen to a high standard. Students will finally shape their pen to ensure it is ergonomic. Students will develop their evaluation skills through suggested improvements.</p>	<p>Iteration: Design challenge for the needs of others: Students will be understanding and developing knowledge of the iterative design technique, where students will be given a need of a specific user and have to develop a design to meet the need. Students will be developing their physical and verbal presentation technique, whilst developing and modifying prototypes.</p>
Revision Resources	Yr 9 Knowledge Organisers	Year 9 T1 Revision List Design & Technology.docx	Copy of Year 9 Revision List Design & Technology.docx
Knowledge Organiser	Yr 9 Knowledge Organisers	Yr 9 Knowledge Organisers	Yr 9 Knowledge Organisers
KS4	Term 1	Term 2	Term 3

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YEAR 10 (GCSE DT)	<p>Practical skill development: Students will develop a range of manufacturing processes and skills, including wood work and plastic work, students will design a trinket box, each corner will be a different carpentry joinery technique. Students will then work with plastic to ensure a broad range of high end skills. These skills can then be transferred into coursework manufacturing as well as aid toward manufacturing research.</p>	<p>Design Skill development: Students will develop their product design, designing skills by develop their 3D drawing techniques in a range of styles, whilst also developing rendering and shading techniques. This is all under pinned with developing how to annotate successfully. This project will lend itself to whens students start Coursework.</p>	<p>Controlled Assessment: The Non-exam assessment will contribute towards 50% of the students overall mark. Students' work will consist of an investigation into a contextual challenge, defining the needs and wants of the user and include relevant research to produce a design brief and specification. Students will generate creative design ideas and develop these to create a final design (including modelling). A manufacturing specification should be produced to conclude the design findings leading into the realisation of a final prototype that is fit for purpose and a final evaluation. Students will investigate, analyse and evaluate throughout the portfolio and evidence all decisions made.</p>
Revision Resources	Year 10 Revision List Design & Technology.docx	Year 10 Revision List Design & Technology.docx	Year 10 Revision List Design & Technology.docx
Knowledge Organiser	Yr 10 Knowledge Organisers	Yr 10 Knowledge Organisers	Yr 10 Knowledge Organisers
Exam Board Information	AQA GCSE Design & Technology: https://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-8552		
YEAR 11 (GCSE DT)	<p>Controlled Assessment: The Non-exam assessment will contribute towards 50% of the students overall mark. Students' work will consist of an investigation into a contextual challenge, defining the needs and wants of the user and include relevant research to produce a design brief and specification. Students will generate creative design ideas and develop these to create a final design (including modelling). A manufacturing specification should be produced to conclude the design findings leading into the realisation of a final prototype that is fit for purpose and a final evaluation. Students will investigate, analyse and evaluate throughout the portfolio and evidence all decisions made.</p>		<p>Exam Preparation: Students knowledge and understanding that consists of:</p> <ul style="list-style-type: none"> • new and emerging technologies • energy generation and storage • developments in new materials • systems approach to designing • mechanical devices • materials and their working properties • selection of materials or components • forces and stresses • ecological and social footprint • sources and origins • using and working with materials • stock forms, types and sizes • scales of production • specialist techniques and processes • surface treatments and finishes. <p>Students will need to demonstrate and apply knowledge and understanding of designing and making principles in relation to the following areas:</p> <ul style="list-style-type: none"> • investigation, primary and secondary data • environmental, social and economic challenge • the work of others • design strategies • communication of design ideas • prototype development • selection of materials and components • tolerances • material management • specialist tools and equipment • specialist techniques and processes
Revision Resources	Year 11 Revision List Design & Technology.docx	Year 11 Revision List Design & Technology.docx	Year 11 Revision List Design & Technology.docx
Knowledge Organiser	T1 Year 11 Knowledge Organisers	T2 Year 11 Knowledge Organisers	T3 Year 11 Knowledge Organisers
Exam Board Information	AQA GCSE Design & Technology: https://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-8552		
YEAR 10 (BTEC Art & Design)	<p>Component 1: Creative Practice in Art and Design: Students will investigate art and design practice to inform the generation and communication of ideas, and will develop practical skills through exploration of specialist materials, techniques and processes. Effective ideas in art and design are developed through practical research and investigation. Artists and designers can generate ideas through a combination of observation, experience and practice with art and design materials, techniques and processes. Students develop and improve their practical skills through testing and reviewing their application of materials, techniques and processes.</p>		<p>Practical skill development: Students will develop a range of manufacturing processes and skills, including wood work and plastic work, students will design a trinket box, each corner will be a different carpentry joinery technique. Students will then work with plastic to ensure a broad range of high end skills. These skills can then be transferred into component 2 manufacturing as well as aid toward manufacturing research.</p>
Revision Resources	N/A	N/A	N/A
Knowledge Organiser	Billy Lovelock Component 1		
Exam Board Information	Pearson BTEC Tech Awards Art and Design Practice (2022): https://qualifications.pearson.com/en/qualifications/btec-tech-awards/art-and-design-practice-2022.html		

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YEAR 11 (BTEC Art & Design)	<p>Design Skill development: Students will develop their product design, designing skills by develop their 3D drawing techniques in a range of styles, whilst also developing rendering and shading techniques. This is all under pinned with developing how to annotate successfully. This project will lend itself to whens students start component 2.</p>	<p>Component 2: Responding to a Brief: In this component, students will interpret a creative brief that is asking students to produce specific art or design work for an identified audience. Students will use their skills to understand the constraints and the requirements of the brief. Students will use planning and organisation skills to ensure that the work can progress and develop in a structured way. Students will ensure that the work meets the requirements of the brief by continually reviewing their work. Finally, they will present the work in an appropriate format, in order to communicate the development of their work and the final response.</p>	
Revision Resources	N/A	N/A	N/A
Knowledge Organiser	N/A	Component 2 Mr Lovelock	
Exam Board Information	Pearson BTEC Tech Awards Art and Design Practice (2022): https://qualifications.pearson.com/en/qualifications/btec-tech-awards/art-and-design-practice-2022.html		