

SUBJECT: Design Technology - Timbers		Year: 10	
<p>Overview of the year: The students will complete the topics for the Core examination and specialist examination (Timbers). Students will then complete the Research and Analysis sections on their controlled assessment which will be released by the examiners at the start of June. The core section is worth 20% of the overall GCSE and contains a mixture of different question styles, including open response, graphical, calculation and extended open response questions. The Timbers section of the course is worth 30% of the overall GCSE and will support student’s ability to design and manufacture products using timbers. Students will learn to apply their knowledge and understanding of timbers, components and manufacturing processes. Students will then start the Controlled assessment (coursework) which will be completed by the third term of Year 11.</p>			
<p>Term 1a Key questions:</p> <ol style="list-style-type: none"> How to approach and generate different design ideas. How to creatively and effectively communicate design ideas. How to choose suitable communication techniques. 	<p>Content:</p> <ol style="list-style-type: none"> Drawing and rendering 3D shapes in oblique Drawing and rendering 3D shapes in isometric Drawing and rendering 3D shapes in 1 point perspective Drawing and rendering 3D shapes in 2 point perspective Presenting working drawings in orthographic 	<p>Assessment:</p> <ol style="list-style-type: none"> Test on drawing techniques Classwork – Isometric Drawing Classwork – 2 Point Perspective drawing 	<p>Weight:</p> <p>50%</p> <p>25%</p> <p>25%</p>
<p>Term 1b Key questions:</p> <ol style="list-style-type: none"> How new and emerging technologies have had an impact on people culture and society. How design decisions are effected by emerging technologies 	<p>Content:</p> <ol style="list-style-type: none"> Students to design a Beach House for the tourist industry of Qatar. Students to complete research into materials and components relevant to their project. Students to evaluate the impact that their beach house designs will have on society, people and culture. 	<p>Assessment:</p> <ol style="list-style-type: none"> Test on effects of emerging technologies. Completed research for beach house project. 	<p>Weight:</p> <p>50%</p> <p>50%</p>

<p>3. How is energy stored and made available for use. What are the advantages of modern and smart materials?</p> <p>4. How can mechanisms increase the mechanical advantage of the user?</p> <p>5. How can electronic products make a product function.</p>			
<p>Term 2a Key questions:</p> <p>1. How to describe the types, properties, structure and uses of metals.</p> <p>2. How to describe the types, properties, structure and uses of Papers and boards.</p> <p>3. How to describe the types, properties, structure and uses of Polymers.</p> <p>4. How to describe the types, properties, structure and uses of Textiles.</p> <p>5. How to describe the types, properties, structure and uses of Timbers.</p> <p>6. How to discriminate between and select appropriate materials.</p> <p>7. How to manufacture using Timbers</p>	<p>Content:</p> <p>a. Students to research, select and use materials in the context of a Design and Make project.</p> <p>b. Students to use tools and equipment safely and with accuracy in the school workshop to manufacture a model of their final design for their project.</p> <p>c. Students to evaluate the use of materials that they have chosen and offer suitable alternatives as required.</p>	<p>Assessment:</p> <p>i. Completed project</p> <p>ii. Test on Materials</p>	<p>Weight:</p> <p>50%</p> <p>50%</p>

<p>Term 2b Key questions:</p> <ol style="list-style-type: none"> 1. What are the challenges that influence design and making? 2. Who are the professionals that have had an influence on design? 4. How can CAD/CAM be used as a tool to help the designer? 5. What are the properties of Timbers? 	<p>Content:</p> <ol style="list-style-type: none"> a. Students to complete a packaging project using Techsoft 2D Design. b. Students to complete a research project on the people and companies who have influenced modern design. 	<p>Assessment:</p> <ol style="list-style-type: none"> i. CAD/CAM Package outcome ii. Research project into designer iii. Test on the Timbers. 	<p>Weight:</p> <p>50%</p> <p>20%</p> <p>30%</p>
<p>Term 3a Key questions:</p> <ol style="list-style-type: none"> 1. What are the various factors effecting the selection of materials including aesthetic, environmental and availability? 2. What are the forces and stress that materials undergo? 3. What are the stock forms and sizes used with Timbers? 4. What are the joining methods used with Timbers. 5. What are the specialist techniques and manufacturing processes used with Timbers? 	<p>Content:</p> <ol style="list-style-type: none"> a. Students to experiment and evaluate materials for stress, construction and aesthetic and use methods to strengthen timbers. b. Students to investigate into the specialist techniques used with paper and board. c. Students to investigate the surface finishes for paper and boards. 	<p>Assessment:</p> <ol style="list-style-type: none"> i. Report into the effect of stress on timbers and how timbers can be strengthened ii. Test on the surface finishes and printing methods used with paper and boards 	<p>Weight:</p> <p>50%</p> <p>50%</p>

<p>Term 3b Key questions:</p> <ol style="list-style-type: none"> 1. What are the tools and equipment used with timbers? 2. What are the surface finishes used with Timbers? 3. How to fully investigate a design question. 4. How to research users' needs and wants. 5. How to use research to write a design brief and comprehensive specification. 	<p>Content:</p> <ol style="list-style-type: none"> a. Students to choose a scenario from which to complete their controlled assessment. b. Students to complete comprehensive research into their chosen topic including potential users. c. students to use their research to complete a design Specification d. Students to experiment with finishes for timbers 	<p>Assessment:</p> <ol style="list-style-type: none"> i. End of Year Examination ii. Design Brief 	<p>Weight:</p> <p>50%</p> <p>50%</p>
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