



Academic Year <u>Year; 8</u>	Content. Unit title and brief outline of content.	Skills taught in each unit.	Assessment – what knowledge and skills will be assessed and how?
<b>Rationale</b>	Y8 the focus is on timber and manufactured board with an emphasis on understanding the source material and its properties, independently using appropriate equipment and developing CAD/CAM skills and isometric drawing. Students design and make a wooden automaton which uses a crank and cams to generate movement. CST – Stewardship and Common Good - Timbers - Types of timber, examples and use and the impact of deforestation on the environment.		
<b>(A) Autumn</b>	<b>Automata – Theme of Nature and the Environment</b> <ul style="list-style-type: none"> <li>• Revision of Health &amp; Safety</li> <li>• Personal H&amp;S Legal requirements and identification and control of Hazards in the workshop.</li> <li>• Design and make a wooden 'Woodbot'</li> <li>• Make- measuring, marking out, cutting, drilling and making.</li> <li>• Design – using hand sketching to produce presentation drawing</li> <li>• Theory of natural and manufactured timber.</li> <li>• BHM - Research into existing product designers/architects or engineers. Questions.</li> </ul>	<ul style="list-style-type: none"> <li>• How to control hazards and what precautions to take to keep others safe in the workshop.</li> <li>• Independent use of hand tools and equipment to cut and finish wood.</li> <li>• Identification of common natural and manufactured timber.</li> <li>• Developed annotated sketching</li> <li>• Independent research skills</li> <li>• Use of ICT and graphical layout and presentation.</li> <li>• Careers – investigating the work of current designers</li> </ul>	October EMB Based upon GCSE style questions Workshop Health and Safety Workshop tools/equipment-identification and safe usage Marking out timber
<b>(A) Autumn B</b>	Design and make a wooden moving toy.  Make- measuring, marking out, cutting and making frame to given working drawing. CAM – Moving Part	<ul style="list-style-type: none"> <li>• Use of CAD to produce scaled products.</li> <li>• Integrating standardised components onto their designs</li> <li>• Evaluate theirs and others designs and completed sections.</li> <li>• Independent research skills</li> </ul>	December Oracy Presentation  BHM - Presentation of their extended Research into existing product designers/architects or engineers. (Team Presentation)



	<p>Design – using hand sketching/CAD to produce moving component. Isometric drawing of final product.</p> <p>Different types of movement</p> <p>BHM - Research into existing product designers/architects or engineers. Presentation</p>		
<b>(A) Spring A</b>	<p>Construct and test Automata</p> <p>Photograph and evaluate final product</p> <p>Automate the automata by driving the camshaft with a battery powered motor.</p> <p>Manufacturing Flow diagrams – including feedback loops, Health and safety and timings.</p> <p>Isometric and orthographic presentation drawings.</p>	<ul style="list-style-type: none"> <li>• Isometric section drawing</li> <li>• Orthographic drawings with dimensions</li> <li>• Sequencing using flow diagrams</li> <li>• Evaluation of final product</li> </ul>	<p>January EMB End of Project Exam - Based upon GCSE style questions Production and uses of natural and manufactured timber. Manufacturing Processes Use of CAD - symbols and designs Use of CAMs to convert direction of movement.</p>
<b>(B) Spring B</b>	<p><b>Automata – Theme of Nature and the Environment</b> Revision of Health &amp; Safety Personal H&amp;S Legal requirements and identification and control of Hazards in the workshop.</p> <p>Design and make a wooden 'Woodbot'</p> <p>Make- measuring, marking out, cutting, drilling and making.</p> <p>Design – using hand sketching to produce presentation drawing</p>	<ul style="list-style-type: none"> <li>• How to control hazards and what precautions to take to keep others safe in the workshop.</li> <li>• Independent use of hand tools and equipment to cut and finish wood.</li> <li>• Identification of common natural and manufactured timber.</li> <li>• Developed annotated sketching</li> <li>• Independent research skills</li> <li>• Use of ICT and graphical layout and presentation.</li> </ul>	<p>March EMB Based upon GCSE style questions Workshop Health and Safety Workshop tools/equipment-identification and safe usage Marking out timber</p>



	<p>Theory of natural and manufactured timber.</p> <p>BHM - Research into existing product designers/architects or engineers. Questions.</p>	Careers – investigating the work of current designers	
<b>(B) Summer B</b>	<p>Design and make a wooden moving toy.</p> <p>Make- measuring, marking out, cutting and making frame to given working drawing. CAM – Moving Part</p> <p>Design – using hand sketching/CAD to produce moving component. Isometric drawing of final product.</p> <p>Different types of movement</p> <p>BHM - Research into existing product designers/architects or engineers. Presentation</p>	<ul style="list-style-type: none"> <li>• Use of CAD to produce scaled products.</li> <li>• Integrating standardised components onto their designs</li> <li>• Evaluate theirs and others designs and completed sections.</li> <li>• Independent research skills</li> </ul>	<p>June EMB</p> <p>End of Project Exam - Based upon GCSE style questions</p> <p>Production and uses of natural and manufactured timber.</p> <p>Manufacturing Processes</p> <p>Use of CAD - symbols and designs</p> <p>Use of CAMs to convert direction of movement.</p>
<b>(B) Spring B</b>	<p>Construct and test Automata</p> <p>Photograph and evaluate final product</p> <p>Automate the automata by driving the camshaft with a battery powered motor.</p> <p>Manufacturing Flow diagrams – including feedback loops, Health and safety and timings.</p> <p>Isometric and orthographic presentation drawings.</p>	<ul style="list-style-type: none"> <li>• Isometric section drawing</li> <li>• Orthographic drawings with dimensions</li> <li>• Sequencing using flow diagrams</li> <li>• Evaluation of final product</li> </ul>	<p>July Oracy Presentation</p> <p>BHM - Presentation of their extended Research into existing product designers/architects or engineers. (Team Presentation)</p>