



## Curriculum for Core Design and Technology – Year 9

**Intent:** Our vision for Design Technology is of a creative, rigorous subject. and Teaching and learning the technical knowledge and practical skills to make products in a range of materials. Design Technology students will learn a variety of design methods including CAD, and be exposed to CAM methods of manufacture such as laser cutters and 3D printers. Students are taught to design using innovation and wherever possible address ‘real life’ design problems. This exciting and modern curriculum will help prepare students for the world they live in.

**Implementation:** A well sequenced and logical curriculum that builds knowledge and skills over time. Assessment centred around the KS3 curriculum Principles of Knowledge, design, make and evaluate. Students will rotate around the different areas of design technology, to ensure they are exposed to a broad technology experience.

**Lesson structure:** Students will follow a structured DT program, having 2 lessons per fortnight. One lesson will follow a structured DT curriculum and the other lesson will follow a food program.

Year 9 Design Technology	Topics/Units to be taught Each unit below is taught over a block. Students experience a rotation system through the projects.	Making skills to be developed (health and safety)	Learning habits	Assessment	Prepares the way for....	Wider Curriculum Links (other curriculum areas, industry, big characters, real life, trips, guest speakers)
<b>Accessories box overview:</b>	Intent: <b>Students are to design and make an accessories box using a range of skills.</b>					
1 lesson per fortnight at 100 minutes  10 – 11 lessons	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Biomimicry</li> <li>Inspiration</li> <li>Ergonomics</li> <li>Anthropometrics</li> <li>Health and safety</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>Designing using inspiration</li> <li>Development using ergonomics and anthropometrics</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>Finger joint box with a pewter handle</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>Peer feedback to inform suggested improvements</li> </ul> <p style="background-color: #90EE90;">CHALLENGE TASK: Jewellery research</p> <p style="background-color: #90EE90;">CHALLENGE TASK: Use CAD software to create a camera using the revolve function</p>	<ul style="list-style-type: none"> <li>Marking out 20 and 30mm fingers.</li> <li>Coping saw and scroll saw</li> <li>Drilling</li> <li>Sanding/ Sanding machine</li> <li>Router</li> <li>Pillar/Bench drill</li> <li>Filing</li> <li>CAD/CAM</li> <li>Pewter casting</li> <li>Decoupage</li> </ul>	<p>All 5 habits can be earned across the DT projects.</p> <p>Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge.</p> <ul style="list-style-type: none"> <li>Resilience</li> <li>Collaboration</li> <li>Ambition</li> <li>Creativity</li> <li>Independence</li> </ul>	<p>This unit has 2 formal assessment areas:</p> <ul style="list-style-type: none"> <li>A02a Design ideas</li> <li>A02e – Making skills</li> </ul> <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen.</p> <p>The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> <li>Improved workshop knowledge and understanding of working practically.</li> <li>Improved Knowledge, understanding and practice of Health and Safety.</li> <li>Improved Independence</li> <li>Some NEA practice pages</li> </ul>	<ul style="list-style-type: none"> <li>English – Written explanations of work.</li> <li>Self/peer assessment.</li> <li>Maths- Using measurement with precision and with tolerance.</li> <li>Maths - Ergonomics and anthropometrics</li> </ul>
<b>Light</b>	Intent: <b>To use knowledge of materials, manufacture and electronics to design and make a light</b>					
1 lesson per fortnight at 100 minutes  10 – 11 lessons	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>Inputs</li> <li>Processes</li> <li>Outputs</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>Coping / scroll saws</li> <li>Disc sander</li> <li>Plastic oven</li> <li>Drilling holes</li> <li>Soldering</li> <li>Hole saw</li> </ul> <p style="background-color: #90EE90;">CHALLENGE TASK: To draw an exploded view of the product in sections.</p>	<ul style="list-style-type: none"> <li>Using the scroll saws/ coping saws safely</li> <li>Soldering</li> <li>Using the cordless power drills with drill bits and hole saws</li> </ul> <p>Plastics oven for bending acrylic</p>	<p>All 5 habits can be earned across the DT projects.</p>	<p>This unit has 2 formal assessment areas:</p> <ul style="list-style-type: none"> <li>A02e – Making skills</li> <li>End of unit test on knowledge</li> </ul> <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen.</p> <p>The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> <li>Understanding electronic systems and how circuits work.</li> </ul>	<ul style="list-style-type: none"> <li>English – Written explanations of work.</li> <li>Self/peer assessment.</li> <li>Maths- Using measurement with precision and with tolerance.</li> <li>Science – (Inputs/ processes and outputs)</li> </ul>

Food	Intent: Students will be continuing to develop knowledge and understanding of food preparation and nutrition. Students will be given the opportunity to develop their knowledge from year 8, building on skills as well as learning new ones.					
<p>1 lesson per fortnight at 100 minutes</p> <p>20 – 21 lessons</p>	<p><b>Knowledge:</b></p> <ul style="list-style-type: none"> <li>• Protein</li> <li>• Eatwell guide</li> <li>• Nutrients</li> <li>• Seasonality</li> <li>• Provenance</li> <li>• Dietary needs</li> <li>• Gelatinisation</li> <li>• Food allergy</li> <li>• Food intolerance</li> <li>• Lacto vegetarian</li> <li>• Ovo vegetarian</li> <li>• Vegan</li> </ul> <p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Own menu based on individual needs</li> </ul> <p><b>Make:</b></p> <ul style="list-style-type: none"> <li>• Spaghetti Bolognese</li> <li>• Moroccan chicken with caus caus</li> <li>• French Apple tart</li> <li>• Mac and cheese OR Croque Monsieur</li> <li>• Thai curry</li> </ul> <p><b>Evaluate:</b></p> <ul style="list-style-type: none"> <li>• Sensory evaluation for each practical dish</li> </ul> <p><b>CHALLENGE TASK/S:</b> TBC</p>	<ul style="list-style-type: none"> <li>• Fine motor skills</li> <li>• Using ovens safely</li> <li>• Using a blender safely</li> <li>• Being safe in the classroom/Kitchen</li> <li>• Use of Knives correctly. (Chopping skills)</li> <li>• Re-cap of coloured chopping boards</li> <li>• Frying</li> <li>• Pasta maker</li> </ul>	<p>All 5 habits can be earned across the DT projects.</p> <p>Students have a sticker on the front of their folders with the habits on. Teachers tick off the habits when students achieve them. If all 5 are achieved within the year, they get a special Art and design badge.</p> <ul style="list-style-type: none"> <li>• Resilience</li> <li>• Collaboration</li> <li>• Ambition</li> <li>• Creativity</li> <li>• Independence</li> </ul>	<p>This unit has three formal assessment areas:</p> <ul style="list-style-type: none"> <li>➢ A02e Making skills ( Veg tart only)</li> <li>➢ A03f Evaluating using sensory analysis and suggesting where improvements to the dish is needed</li> <li>➢ End of unit test on knowledge</li> </ul> <p>Throughout the project, students will be given verbal feedback on their progress.</p> <p>At assessment points students will receive a highlighted success criteria. Green is achieved and red is next steps. Students will feedback from a teacher led question which identifies common mistakes. Written in green pen.</p> <p>The end of unit test is a gauge of knowledge acquired within that unit.</p>	<ul style="list-style-type: none"> <li>• Improved kitchen knowledge and understanding.</li> <li>• Improved knowledge and understanding of practical skills/precision.</li> <li>• Improved Knowledge, understanding and practice of Health and Safety.</li> <li>• Improved Independence.</li> </ul>	<ul style="list-style-type: none"> <li>• Science - in food</li> <li>• Geography - Seasonality of Food</li> <li>• Maths - calculating recipes</li> <li>• English -reading of text</li> </ul>