



## DESIGN AND TECHNOLOGY KEY STAGE 3 CURRICULUM MAP

In the Design and Technology department, we aim to keep our curriculum fluid and open to change. This enables an open dialogue and continual reflection on content to ensure we deliver a valuable programme of study. The actual sequence of delivery will vary due to resourcing and or timetabling. By the year end all planned activities will have been covered.

Curriculum Overviews	Autumn 1 7 Weeks	Autumn 2 7 Weeks	Spring 1 6 Weeks	Spring 2 6 Weeks	Summer 1 6 Weeks	Summer 2 7 Weeks
<b>Year 7</b>	<p><b>Health and safety in the Workshops</b> Knowledge and understanding for working in a design and technology environment.</p> <p><b>Design and drawing techniques</b></p> <ul style="list-style-type: none"> <li>Sketching, formal drawing techniques, including computer aided design.</li> </ul> <p><b>Food - Nutrition and the importance of a balanced diet</b></p> <ul style="list-style-type: none"> <li>Health, safety and hygiene through personal hygiene and routines.</li> <li>Food preparation.</li> <li>Cooking methods</li> </ul>	<p><b>Food - Nutrition and the importance of a balanced diet</b></p> <ul style="list-style-type: none"> <li>Health, safety and hygiene through personal hygiene and routines.</li> <li>Food preparation.</li> <li>Cooking methods</li> </ul>	<p><b>Problem solving – Timber boat</b> During this project students will have the opportunity to manufacture a wooden boat using hand tools and appropriate workshop machines.</p> <p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>Working knowledge of workshop tools and equipment.</li> <li>Marking out and measuring with accuracy.</li> <li>Applying correct health and safety measures.</li> <li>Properties and uses of timbers – natural and man-made boards.</li> </ul>		<p><b>Designing for others – Pewter cast jewellery</b> During this project students will have the opportunity to design and manufacture a piece of jewellery.</p> <p><b>Knowledge and skills</b></p> <ul style="list-style-type: none"> <li>The Iterative Design Process.</li> <li>Investigation - design movements.</li> <li>Use of computer aided design (CAD) software to model and test design possibilities.</li> <li>Properties and uses of metals.</li> <li>Industrial processes – casting and forming metals.</li> <li>Finishing techniques</li> <li>Health and Safety in the workshop, heat treatment</li> </ul>	
<b>Year 8</b>	<p><b>Food - Nutrition and the importance of a balanced diet</b> Developing a deeper understanding of protein within a healthy diet.</p> <p>Core knowledge taught:</p> <ul style="list-style-type: none"> <li>Science behind food processes.</li> <li>Practical sessions to include evaluating their dishes against set criteria.</li> <li>Cost a selection of recipes.</li> <li>Eatwell Guide group of foods.</li> <li>Hygiene and safety in the food room</li> <li>The 4 Cs of food safety.</li> </ul>		<p><b>Electronic control – LED Night Light</b> During this project students will have the opportunity to explore and follow a systems approach to solving problems.</p> <ul style="list-style-type: none"> <li>Core knowledge of electronic components.</li> <li>Electronic soldering.</li> <li>Fault finding.</li> <li>Industrial processes - Line bending/strip heating.</li> <li>Relevant testing of prototypes.</li> </ul>		<p><b>Exploring the work of others – Memphis Clock</b> During this project students will explore the influence that the Memphis Design Movement.</p> <ul style="list-style-type: none"> <li>Core knowledge of Designers and Design Movements.</li> <li>Social, cultural, environmental and economic factors.</li> <li>Properties and uses of polymers.</li> <li>6 Rs – Rethink, Refuse, Reduce, Reuse, Repair, Recycle.</li> </ul>	
<b>Year 9</b>	<p><b>Food - Nutrition and the importance of a balanced diet</b> Investigating the breadth and variety of food served around the world.</p> <p>Core knowledge taught:</p> <ul style="list-style-type: none"> <li>Environmental issues and sustainability in relation to human consumption of food.</li> <li>Nutrition through life.</li> <li>Dishes from around the world.</li> <li>Food hygiene and safety when working with high risk foods.</li> </ul>		<p><b>Mechanical Systems – Automaton</b> During this project students will have the opportunity to explore, develop and model mechanical systems.</p> <ul style="list-style-type: none"> <li>Core knowledge taught of mechanical components.</li> <li>Designing for others.</li> <li>Developing a brief and planning out a project</li> <li>Prototyping.</li> <li>Evaluation.</li> </ul>		<p><b>Sustainable design – product design</b> During this project students will have the opportunity to explore and further understand the importance of sustainable design.</p> <p>Core knowledge taught:</p> <ul style="list-style-type: none"> <li>Environmental issues throughout the World.</li> <li>Impact of design on society and the environment.</li> <li>Sustainability.</li> <li>The Iterative design process and development of ideas.</li> <li>Designing for others.</li> </ul>	





## DESIGN AND TECHNOLOGY KEY STAGE 4 CURRICULUM MAP

Curriculum Overviews	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 10</b>	<b>Material categories</b> <ul style="list-style-type: none"> <li>Papers and Boards</li> <li>Natural and manufactured Timbers</li> <li>Metals and Alloys</li> <li>Polymers</li> <li>Textiles</li> </ul>	<b>Timbers and polymers</b> <ul style="list-style-type: none"> <li>Natural and man-made boards</li> <li>Sources and origins</li> <li>Stock forms</li> <li>Ecological issues</li> </ul>	<b>Specialist technical principles</b> <ul style="list-style-type: none"> <li>Systems approach to designing</li> <li>Mechanical devices</li> <li>Modern and smart materials</li> <li>Textiles</li> </ul>	<b>Manufacturing processes</b> <ul style="list-style-type: none"> <li>CAD/CAM</li> <li>Industrial processes</li> <li>Social, cultural, environmental and economic factors</li> </ul>	<b>Designing and making principles</b> <ul style="list-style-type: none"> <li>Primary and secondary data</li> <li>Analysing and evaluation</li> <li>Design briefs and specifications</li> <li>The work of others</li> <li>Iterative design</li> </ul>	<b>Non-Examined Assessment (NEA)</b> Context released by the exam board. <ul style="list-style-type: none"> <li>Identifying and investigating design possibilities.</li> <li>Producing a Design Brief and Specification.</li> </ul>
<b>Year 11</b>	<b>Designing and making principles</b> <ul style="list-style-type: none"> <li>New and emerging technologies</li> </ul> <b>NEA:</b> <ul style="list-style-type: none"> <li>Developing and modelling design ideas</li> </ul>	<b>Designing and making principles</b> <ul style="list-style-type: none"> <li>Energy generation and storage</li> </ul> <b>NEA:</b> <ul style="list-style-type: none"> <li>Realising design ideas</li> </ul>	<b>Designing and making principles</b>  <b>NEA:</b> <ul style="list-style-type: none"> <li>Analysing, testing and evaluating</li> </ul> <b>Exam revision</b>	<b>Examination revision</b>	<b>Examination revision</b> <ul style="list-style-type: none"> <li>Formal examination</li> </ul>	

### Texts, Exam Boards, and Useful Websites:

Key Stage 4 (Year 10 - 11)
<b>Useful websites:</b>  <a href="https://www.bbc.co.uk/bitesize/examspecs/zby2bdm">https://www.bbc.co.uk/bitesize/examspecs/zby2bdm</a>  <a href="https://www.technologystudent.com/">https://www.technologystudent.com/</a>  <a href="https://design-technology.org/">https://design-technology.org/</a>  <a href="#">AQA   GCSE   Design and Technology   Scheme of assessment</a>  <a href="https://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-8552">https://www.aqa.org.uk/subjects/design-and-technology/gcse/design-and-technology-8552</a>  <a href="https://wiki.dtonline.org/index.php/Main_Page">https://wiki.dtonline.org/index.php/Main_Page</a>  <a href="#">HOME   Dtteacher</a>  <a href="#">GCSE design and technology resources (stem.org.uk)</a>

