

## **Design and Technology – Formal Curriculum Summary and Overview (2022-23)**

### **Intent:**

Design and Technology is a creative and practical subject. Using their creativity and imagination, students design, make and evaluate products considering their own and others needs, wants and values.

It is a cross-curricular subject drawing on skills from mathematics, science, computing and art.

Design and Technology covers a range of topics (see long term plan below) which allows students to develop various skills. These include woodwork, CAM mechanisms and textiles.

### **Implementation:**

Delivery of this subject is organised across broad ability based teaching and learning groups. In key stage 3 DT is taught as part of the National Curriculum expectation and in the 14 – 19 Departments, delivery is via the options programme. This allows work to be differentiated to meet ability ranges with access to staffing ratios that offer small group and individual 1:1 support when needed. Staff are experienced and follow appropriate professional development opportunities to support delivery models. Each subject follows a curriculum map that highlights the required content and progression. Assessment is both formative and summative to inform next steps in learning and summarising attainment and progress. Some students will also access enhanced personalised timetables to meet specific additional needs if appropriate.

### **Impact:**

The aims, outcomes and skills developed in Design and Technology are that they will:

- Develop creative, technical and practical skills that may be useful in adulthood
- Build and apply their knowledge, understanding and skills to enable them to design and make high – quality prototypes and products for a wide range of users
- Be able to work with a variety of materials
- Be able to have a healthy attitude towards safety through following correct procedures when using different tools and machinery
- Be able to critique, evaluate and test their ideas and products and the work of others.

## KS3 Design and Technology Curriculum Mapping – (Long-Term Overview)

Key Stage 3 (Y7, Y8 & Y9)	Year A (2022/23)	Year B (2023/24)	Year C (2024/25)
<b>Autumn</b>	<p><b>Safety in the DT room</b> Rules of DT room, safety around equipment</p> <p><b>CAD/woodwork - Photo frame</b></p> <ul style="list-style-type: none"> <li>• Becoming familiar with different types of wood – natural and manmade</li> <li>• Introduction into the design process</li> <li>• Choosing suitable tools for working with wood.</li> </ul> <p>(AQA 117306 MAKING AN ACRYLIC PHOTO FRAME)</p>	<p><b>Safety in the DT room</b> Rules of DT room, safety around equipment</p> <p><b>Woodwork/mechanisms - Clocks</b></p> <ul style="list-style-type: none"> <li>• Becoming familiar with different types of wood – natural and manmade</li> <li>• Introduction into the design process</li> <li>• Choosing suitable tools for working with wood.</li> <li>• To use mechanisms in their work and begin to understand how the hands move - Gears</li> </ul> <p>(AQA 110393 DESIGNING AND MAKING A CLOCK)</p>	<p><b>Safety in the DT room</b> Rules of DT room, safety around equipment</p> <p><b>Woodwork, laser cutter - Board Games</b></p> <ul style="list-style-type: none"> <li>• Incorporating laser cutting into their designs – using a range of tools.</li> <li>• Evaluating their designs and other peoples.</li> <li>• Adapting their designs as they move through design process.</li> </ul> <p>(AQA 88074 DESIGNING AND MAKING A BOARD GAME)</p>
<b>Spring</b>	<p><b>Mechanisms - Automata toys (CAMs)</b></p> <ul style="list-style-type: none"> <li>• To understand and use mechanical systems in a product. (e.g. cams, pulleys, linkages)</li> <li>• Introduction to evaluating products – Investigating current products, evaluating their own product against criteria</li> </ul>	<p><b>Electronics - Mini light (Torch, Desk lamp)</b></p> <ul style="list-style-type: none"> <li>• Understanding electrical systems and using these in their designs (Bulbs and switches)</li> <li>• Introduction to evaluating products – Investigating current products, evaluating their own product against criteria</li> </ul>	<p><b>Plastic vacuum forming - Chocolate bar moulds</b></p> <ul style="list-style-type: none"> <li>• Safety when using vacuum former</li> <li>• Using MDF to create moulds</li> <li>• Understanding different plastics and their characteristics</li> </ul>
<b>Summer</b>	<p><b>Enterprise - Upcycling</b></p> <ul style="list-style-type: none"> <li>• Environmental factors</li> <li>• The 5 'r' Refuse, Reduce, Reuse, Recycle, Repurpose</li> <li>• Understand key events and individuals in D+T who have helped shape the world</li> <li>• Strengthening and reinforcing</li> </ul>	<p><b>Enterprise - Upcycling</b></p> <ul style="list-style-type: none"> <li>• Environmental factors</li> <li>• The 5 'r' Refuse, Reduce, Reuse, Recycle, Repurpose</li> <li>• Understand key events and individuals in D+T who have helped shape the world</li> <li>• Strengthening and reinforcing</li> </ul>	<p><b>Textiles - Felt phone cases/money containers/finger puppets</b></p> <ul style="list-style-type: none"> <li>• Selecting from a range of materials and tools.</li> <li>• Safety when using tools such as sewing machine</li> <li>• Understand key events and individuals in D+T who have helped shape the world</li> </ul> <p>(AQA 110085 SAFE HANDLING OF EQUIPMENT: A HOT GLUE GUN)</p>

DT in KS3 is taught in rotation each half term back-to-back with Food Tech. If a group is taught DT in Autumn 1, they will be taught Food Tech in Autumn 2 and vice versa.

## 14-19 Department Design and Technology Curriculum Mapping – (Long-Term Overview)

Key Stage 4 (Y10 & Y11)	Year A (2022/23)	
Autumn 1	<b>Introduction to DT</b> <ul style="list-style-type: none"> <li>- Health and safety within the DT room (AQA 117300 PERSONAL PROTECTIVE EQUIPMENT AND SAFETY WEAR IN CONSTRUCTION)</li> <li>- Risk assessments (AQA 117301 EMERGENCIES AND WORKING SAFELY IN CONSTRUCTION)</li> </ul>	
Autumn 2	<b>Introduction to DT</b> <ul style="list-style-type: none"> <li>- Basic tool work (AQA 117353 BASIC DIY: TOOLS)</li> </ul> <b>Christmas enterprise projects</b> <ul style="list-style-type: none"> <li>- Researched by pupils to a given criteria</li> </ul>	
Spring 1	<b>Upcycling/ Enterprise</b> <ul style="list-style-type: none"> <li>- Projects to be researched by pupils with set criteria.</li> <li>- Upcycling furniture (AQA 111790 UPCYCLING FURNITURE)</li> </ul>	
Spring 2	<b>Upcycling/ Enterprise</b> <ul style="list-style-type: none"> <li>- Projects to be researched by pupils with set criteria.</li> <li>- Upcycling furniture (AQA 111790 UPCYCLING FURNITURE)</li> </ul>	
Summer 1	<b>Enterprise woodwork projects</b> <ul style="list-style-type: none"> <li>- Own project – Create own criteria</li> <li>- Birdbox (AQA 111292 DESIGNING AND MAKING A WOODEN BIRD BOX)</li> <li>- Planters</li> </ul>	
Summer 2	<b>Enterprise woodwork projects</b> <ul style="list-style-type: none"> <li>- Own project – Create own criteria</li> <li>- Birdbox (AQA 111292 DESIGNING AND MAKING A WOODEN BIRD BOX)</li> <li>- Planters</li> </ul>	