

Design Technology Year 10

Learning Intentions Autumn Term 2

2024- 2025

	LESSON 1	LESSON 2	LESSON 3
WEEK 9 wc 4 th November	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The six Rs (Reduce, Refuse, Re-use, Repair, Recycle and Rethink) The ecological issues involved in design and manufacture 	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> Basic material properties Specific physical and working properties such as density, fusibility, strength and hardness How to modify properties for a specific purpose 	<p>Practical phase Assess materials knowledge through practical application. A basic phone stand/holder to be built – no designing, students experiment with materials and recall knowledge from Year 9. Material properties and how to work with them is re-visited and assessed. <i>Opportunities to visit maths links – Calculation of material costs</i></p>
WEEK 10 wc 11 th November	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The commercially available types and sizes of materials The stock forms available <p>The process of converting primary sources into stock forms for commercial manufacture.</p>	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The correct use of manufacturing specifications and working drawings The use of Orthographic projection The ISO method of dimensioning working drawings The 3rd angle method of orthographic drawing 	
WEEK 11 wc 18 th November	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The importance of the process of quality control The difference between quality control and quality assurance The different quality control techniques used in manufacturing environments 	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> How materials are cut, shaped and formed to a tolerance The different techniques available to measure and define tolerance The role of tolerance in quality control. 	<p>Practical phase – NEA style project. Assess materials knowledge through practical application. Exploration of material properties drawing on prior knowledge and understanding. Sketch modelling to develop ideas and help with problem solving. Use of appropriate tools and techniques during the practical phase.</p>
WEEK 12 wc 25 th November	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The preparation and application of surface treatments and finishes 	<p>Students should be able to understand and describe:</p> <ul style="list-style-type: none"> The types of forces acting upon materials The techniques available for reinforcing materials 	

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	<ul style="list-style-type: none"> How surface treatments and finishes can enhance the functional and aesthetic properties of materials 	<ul style="list-style-type: none"> How to manipulate materials to resist or work with forces 	
WEEK 13 wc 2 nd December	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Investigate, analyse and evaluate the work of past and present designers and companies 	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Generate and develop imaginative and creative designs Use varied strategies such as iterative and user centred design 	<p>Practical phase – NEA style project. Assess materials knowledge through practical application. Pupils will be able to describe how materials are cut shaped and formed to a tolerance and be able to demonstrate appropriate initial preparation techniques when finishing plastics</p>
WEEK 14 wc 9 th December	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Use primary and secondary data to understand client and/or user needs. Use Market research, interviews to understand human factors when designing 	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Effectively communicate design ideas using isometric and perspective designs, exploded diagrams and working drawings 	
WEEK 15 wc 16 th December	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Effectively communicate design ideas using computer-based tools, audio and visual recordings and modelling 	<p>Students should be able to understand and describe how to:</p> <ul style="list-style-type: none"> Write a design brief based upon market research and designer/company findings. Use appropriate primary and secondary research sources Effectively present research data in an accessible and easy to understand manner. 	<p>Practical phase – NEA style project. Assess materials knowledge through practical application. Pupils will be able to use CAD/CAM to enhance and finish their products by using appropriate cad programs such as Techsoft 2D Design and applying relevant quality control procedures</p>