



# Curriculum Map



Subject: **GCSE Product Design**

Year group: **10**

|   | Autumn 1   | Autumn 2  | Spring 1  | Spring 2   | Summer 1   | Summer 2  |
|---|--|---|---|--|--|---|
| <p><b>Content</b></p> <p><i>Declarative Knowledge – ‘Know What’</i></p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Introduction to the Design Technology GCSE course. Expectations Breakdown and weighting of marks (NEA &amp; Exam). Explain the importance of success in both elements to achieve higher level grades. Introduction to practical tasks for the first H/T. Opportunities to both reinforce and develop practical skills. Emphasise accuracy of measuring and marking out. Cutting in waste areas and accurate removal of waste to ensure tight fitting joints. Explain the concept of tolerances (+/-) to achieve accuracy. Introduce PG Online resources. Deliver Unit</p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Continue acquisition and development of practical Skills. Students complete the first Focused Practical Task 1 (Automata). Completion of detailed production plan for product. Evaluation of progress and skills learnt. Students begin Focused practical task 2 (Decorative Box). Delivery of PG Online theory content.</p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Students complete Focused Practical Task 2 (Decorative Box). Students continue learning theory content through PG Online resources. Students begin their NEA practice task: Designer themed lamp. For this task students are introduced to AQA shortlist of Key Designers and influences. Students chosen design will need to show the clear influence of one of the designers on their Practical outcome.</p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Students continue and complete NEA practice tasks. Outcome is comprehensively evaluated using AQA assessment criteria - students are given the opportunity to reflect on their work using AQA exemplar outcomes. Students use the remainder of term completing focused skills activities that will assist them in developing their skills and knowledge base in preparation for NEA practical in Year 11. All processes documented for possible inclusion in the Research &amp; Investigation section of the students NEA document.</p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Preparation for PPE Preparation for Delivery of New AQA NEA Context in Summer 2. Discuss identifying a shortlist of clients for chosen context - stress that it needs to be a real person that can participate in the Research, Investigation and design process. Practice Product Analysis for NEA using Access FM criteria.</p> | <p><b>Subject/Topic - GCSE Design Technology</b></p> <p><b>content:</b></p> <p>Introduction to the new AQA NEA contexts. Use available resources to reflect on the 3 new Contexts and discuss which ones students are interested in and which link to possible clients. Students Mind Map each context before deciding final choice. Students Continue working on the Research &amp; Investigation section until the end of term. Students are instructed and given resources to enable them to work on Product Analysis/disassembly tasks during summer break.</p> |



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|  | <p>1: 3.1.1 New &amp; Emerging Technologies (See PG Online Scheme)).</p>   |   |   |   |  |   |
| <p style="text-align: center;"><b>Skills</b></p> <p><i>Procedural Knowledge – ‘Know How’</i></p> | <p>Robotics and Automation in industry<br/>Production Techniques &amp; Systems<br/>Enterprise: Market Pull and Technology Push (People, Culture &amp; Society).<br/>Evaluation of new and emerging technologies<br/>Planned Obsolescence<br/>Design for Maintenance<br/>Ethics<br/>The Environment</p> | <p>The 6 R's - Ecological issues in Design &amp; Manufacture<br/>Ecological &amp; Social Footprint<br/>Properties of materials, using and working with materials<br/>Modifying properties for a purpose.<br/>Using and working with materials.<br/>Commercially available types and sizes of materials.<br/>Sources &amp; Origins</p> | <p>Scales of production<br/>Manufacturing Specification, Working Drawings.<br/>Investigation: Primary &amp; Secondary data.<br/>Tools, Equipment and Processes. Quality Control.<br/>Specialist techniques and processes.<br/>Materials management.</p> | <p>Selection of correct hand tools and machinery (specialist tools and equipment)<br/>Safe use of tools. (Using and working with materials)<br/>Selection and use of specialist techniques (shape, fabricate, construct).<br/>Preparing a material for a surface finish.<br/>Applying a surface finish (Surface</p> | <p>Generating imaginative and creative ideas.<br/>isometric and perspective designs.<br/>Exploded diagrams.<br/>Working drawings.<br/>Computer based tools.<br/>Audio and visual recordings.<br/>Modelling, identifying appropriate materials for a given task<br/>(Communication of design ideas, Prototype development).</p> | <p>Satisfy the requirements of the Brief.<br/>Functionality.<br/>Aesthetics<br/>Marketability.<br/>How to write a Specification.<br/>Materials are selected based on functionality, cost and availability (Selection of materials and components).<br/>Identification and selection of possible</p> |



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|  | <p>Renewable and Non-renewable resources.<br/>           Battery storage<br/>           Alkaline and rechargeable<br/>           Nuclear Energy<br/>           Systems<br/>           Types of Motion<br/>           Modern Materials<br/>           Smart Materials<br/>           Composite Materials<br/>           Technical Textiles.</p> | <p>Stock forms and Sizes.<br/>           Communication of ideas.<br/>           Scales of production<br/>           Manufacturing Specification, Working Drawings.<br/>           Investigation: Primary &amp; Secondary data.<br/>           Tools, Equipment and Processes. Quality Control.<br/>           Specialist techniques and processes.<br/>           Materials management.</p> | <p>Tools, Equipment &amp; Processes. Quality Control.<br/>           How materials are cut and formed to a shape (Tolerances, Specialist techniques &amp; processes, Material management).<br/>           Cutting, shaping and forming to a tolerance.</p>             | <p>treatments and finishes).<br/>           How materials can be altered to change their properties (using and working with materials).</p>  | <p>Working accurately.<br/>           Cutting, shaping and forming materials to a required tolerance (tolerances, material management).</p>  | <p>materials based sustainability criteria</p>   |
| <b>Assessment</b>                        | <p>Regular Teacher assessment using AQA: Core Technical Principles, Specialist Technical Principles, Designing &amp; Making Principles.</p>  | <p>PPE 90 minute covering elements of core knowledge covered so far using AQA Exampro past paper questions.</p>   | <p>Regular Teacher assessment using AQA: Core Technical Principles, Specialist Technical Principles, Designing &amp; Making Principles.</p>  | <p>Regular Teacher assessment using AQA: Core Technical Principles, Specialist Technical Principles, Designing &amp; Making Principles.</p>  | <p>PPE 90 minute covering elements of core knowledge covered so far using AQA Exampro past paper questions.</p>  |  |
| <b>Literacy/Numeracy/ SMSC/Character</b> | <p><b>Literacy Focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p>   | <p><b>Literacy focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p>  | <p><b>Literacy focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p> | <p><b>Literacy focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p> | <p><b>Literacy focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p> | <p><b>Literacy focus:</b><br/>           Effective and consistent use of subject specific terminology. Develop the ability to contextualise terminology in written and verbal descriptions of processes and in describing and reflecting on their own work. Become</p> |



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|  | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> | <p>familiarised with language used in exam questions.</p> <p><b>SMSC/Character:</b></p> <p>Instil an increased awareness of the subject in its broader aspects; Sustainability, fair trade, ethical sourcing of materials and manufacturing methods. Why is community important? What is collective responsibility? How can we help others who experience more challenging circumstances?</p> |
| <b>Rationale &amp; Links to learning</b> |   |   |   |   |   |   |