

(Design and Technology) Curriculum Overview 2023-24

	Unit 1
Year 7 curriculum overview	Introduction to workshop - health and safety and use of tools and equipment to create a high quality jewellery box with moveable parts.
Skills	<ol style="list-style-type: none"> 1. Health and safety awareness 2. Workshop tools <ol style="list-style-type: none"> a. Measuring and marking b. Cutting and shaping c. Joining and finishing 3. Material properties (timbers) 4. Drawing techniques <ol style="list-style-type: none"> a. Scaled drawings b. Isometric c. rendering
Personal Development links	<p>Mental Health H9</p> <ul style="list-style-type: none"> ● Setbacks with work <p>Healthy lifestyles H13, H14</p> <ul style="list-style-type: none"> ● time spent on specific activities <p>Managing risk and personal safety H30, H31</p> <ul style="list-style-type: none"> ● Workshop safety <p>Social influences R42</p> <ul style="list-style-type: none"> ● Active tasks in the workshop - ensuring a good working environment. <p>Sustainability</p> <ul style="list-style-type: none"> ● Understanding the role designers have <p>Environment</p>
Career links	Product designer craftsperson

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	Unit 1
Year 8 curriculum overview	Desk Tidy project. Deeper depth of workshop tools and equipment with a greater focus on quality control measures
Skills	<ol style="list-style-type: none"> 1. Manufacturing specification mastery 2. Greater depth of workshop tools and equipment <ol style="list-style-type: none"> a. Measuring and marking with various tools b. Cutting and shaping with jigs and formers. c. Joining and finishing with more emphasis for surface preparation 3. Working understanding of a variety of woodworking joints. 4. Tolerances and quality control 5. Technical drawing skills <ol style="list-style-type: none"> a. Orthographic projection b. Exploded diagrams 6. Waste calculations
Personal Development links	Mental Health H9 <ul style="list-style-type: none"> ● Setbacks with work Healthy lifestyles H13, H14 <ul style="list-style-type: none"> ● time spent on specific activities Managing risk and personal safety H30, H31 <ul style="list-style-type: none"> ● Workshop safety Social influences R42 <ul style="list-style-type: none"> ● Active tasks in the workshop - ensuring a good working environment. Project management <ul style="list-style-type: none"> ● Understanding the orders of tasks and the timing
Career links	Product Designer Joinery

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	Autumn 1
Year 9 curriculum overview	A-Maze project: Students work through a manufacturing understanding of best use of material which takes into account nesting/tessellation and material wastage.
Skills	<p>Cross curricular links with Maths:</p> <ul style="list-style-type: none"> ● Area ● Volume ● Percentages ● Full working out and methods <p>Designing skills developed further through maze design Development of technical drawing skills with a range of strategies:</p> <ul style="list-style-type: none"> ● Plan views (orthographic) ● Isometric drawing ● CAD - sketch up <p>Model making</p> <ul style="list-style-type: none"> ● Understanding of materials and properties
Personal Development links	<p>Project management</p> <ul style="list-style-type: none"> ● Understanding the orders of tasks and the timing <p>Implications on real world concerns</p> <ul style="list-style-type: none"> ● Overuse of resources ● Reduction in material consumption.
Career links	<p>Electrician Engineering Surveyor Architecture</p>

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10 curriculum overview	<p>Task light project: Part 1 Research and investigation into the needs and wants of consumers Product evaluations Designing creative ideas and planning for manufacture.</p> <p>Content: 3.1 Core technical principle focus 3.1.1 - 3.1.3</p>	<p>Task light project: Part 2 Manufacturing of final product including electronics and final finish Evaluation and analysis of the final product</p> <p>Content: 3.1 Core technical principles focus: 3.1.4 - 3.1.6</p>	<p>Marble run competition: Group activity to create a run which meets specific requirements.</p> <p>Content: 3.2 Specialist technical principle focus: 3.2.1 - 3.2.4</p>	<p>Desk Tidy Modeling project: Students create a range of ideas with one being chosen to develop three times through modelling techniques and materials</p> <p>Content: 3.2 Specialist technical principle focus: 3.2.5 - 3.2.9</p>	<p>Technical drawing project. Students work through a range of technical drawing techniques</p> <p>Content: 3.3 Designing and making principles focus: 3.3.1 - 3.3.4</p>	<p>NEA introduction and completion of Section A and B</p> <p>Content 3.3 Designing and making principles focus: 3.3.5 - 3.3.8</p>
Skills	<p>Investigation: research techniques into consumer needs and existing solutions Reasoning: selective with the data and information collected Justification: design specifications require justification along with a clear understanding between the essential and the desirable. - inclusion of ACCESS FM Creativity: designing with flair and innovation through strategies which avoid design fixation.</p>	<p>Problem solving: Measuring and marking out Cutting and shaping Joining and finishing Electronic systems. Realisation of idea: Being able to successfully see the construction of a product from start to finish. Evaluation: Reflecting on the work created and identifying areas for improvement.</p>	<p>Designer collaboration: Students work in groups, sharing ideas and critiquing suggestions. Creativity: Students will create a unique model Problem solving: Student will be checking the success of their product at various stages to ensure that it meets the specified requirements</p>	<p>Creativity: Design ideas are produced which avoid design fixation and show a good level of innovation Modelling: trialling prototypes to see how they function Iteratively thinking: Evaluation at each stage of development Reasoning with decisions to inform change. Testing out ideas.</p>	<p>Communication: Through a range of drawing techniques students will be presenting ideas and drawing with technical information Handling data: Orthographic data and exploded diagrams require precision marking and an understanding of logical placements of multiple components. Drawing techniques: A focus on 3.3.5 Communication of design ideas to represent ideas.</p>	<p>Investigation: Exploring design possibilities based on a design contextual challenge set by AQA Reasoning: Backing up the choices through each of the threads in early exploratory work Justification: Design specification requirements require justification to reflect the investigation and contextual challenge.</p>

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Personal Development links	Project management <ul style="list-style-type: none"> Understanding the orders of tasks and the timing Implications on real world concerns <ul style="list-style-type: none"> Overuse of resources Reduction in material consumption. 	Project management <ul style="list-style-type: none"> Understanding the orders of tasks and the timing Curiosity <ul style="list-style-type: none"> Selecting and understanding a range of media and tools 	Project management <ul style="list-style-type: none"> Understanding the orders of tasks and the timing Collaboration <ul style="list-style-type: none"> Working with others Team building Roles Leadership and responsibility <ul style="list-style-type: none"> Roles and responsibilities Skill identification 	Creativity <ul style="list-style-type: none"> Expressing Relating Time management <ul style="list-style-type: none"> Following a set schedule (not one designed by themselves) 	Creativity <ul style="list-style-type: none"> Expressing Relating 	Project management <ul style="list-style-type: none"> Understanding the orders of tasks and the timing
Career links	Research	Product Designer Tradesperson Construction manager	Dyson design challenge Engineering Project manager	Product Designer Architecture	Draftsperson Engineering	Researcher Data analysis

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11 curriculum overview	NEA continuation with Sections C and D. Content: 3.3 Designing and making principles focus 3.3.10 - 3.3.11	NEA continuation with Sections D and E Content: 3.1 Core technical principles Focus on specific areas which have	NEA continuation with Sections E and F Content: 3.2 Specialist technical principles Focus on specific areas which have	Content: 3.3 Designing and making principles Focus on specific areas which have underperformed based on collected data from year 10 and 11	NEA submission to AQA Focussed skills toward Final exam. Focus on 3.3.5 Long answer format questioning.	

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		underperformed based on collected data from year 10 and 11 Trends indicate: 3.1.2 and 3.1.3	underperformed based on collected data from year 10 and 11 Trends indicate: 3.2.2 and 3.2.9	Trends indicate: 3.3.4, 3.3.5 and 3.3.11	
Skills	<p>Creativity: designing with flair and innovation through strategies which avoid design fixation.</p> <p>Communication: Applying further details and information to each design idea and later, developments.</p> <p>Realisation: Moving ideas from 2D into 3D</p>	<p>Practical: Workshop skills used to select and use a variety of tools and equipment.</p> <p>Problem solving: Measuring and marking out Cutting and shaping Joining and finishing Electronic systems. Evaluation</p>	<p>Selection of materials or components: Functionality, Aesthetics, environmental factors, availability, cost, social factors and ethical factors.</p> <p>Surface treatments and finishes: Preparation and application of treatments and finishes to enhance functions and aesthetics - Painting varnishing and tanalising</p>	<p>Greater depth of knowledge from selected units: Understanding the need for iterative design and how designers can avoid design fixation. Working through the skills needed to complete technical drawings from orthographic understanding to 2 point perspectives drawing. Greeted look into Specialist techniques and processes with a focus on knowing when specific actions of tools and equipment are elected.</p>	<p>Communication: Cross Curricular based: Focus on maths skills: Area Volume Ratio Percentages Graph creation: Bar charts Pie charts Focus on science skills Understanding material extraction and conversion Impact on the environment Sustainability issues Clean energy Finite resources Energy consumption.</p>
Personal Development links	<p>Project management</p> <ul style="list-style-type: none"> Understanding the orders of tasks and the timing 	<p>Project management</p> <ul style="list-style-type: none"> Understanding the orders of tasks and the timing 	<p>Project management</p> <ul style="list-style-type: none"> Understanding the orders of tasks and the timing 	<p>Creativity</p> <ul style="list-style-type: none"> Realisation Development <p>Sense of accomplishment</p> <ul style="list-style-type: none"> Start to finish technical drawings Drawings across 	<p>Problem solving</p> <ul style="list-style-type: none"> Reasoning Logical Process based.

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				disciplines	
Career links	Graphic Designer Product Designer Illustrator Maths related Architect environmentalist				