

Design & Technology Year 10 Curriculum Overview



Year 10 Overview

Bird Box Project & Introduction to GCSE Design & Technology

The Autumn Term begins with an introduction to GCSE Design & Technology, where students learn the importance of design briefs, client profiles, and user-centered design. They explore art and design movements such as **Memphis** and **Arts & Crafts**, investigating the work of influential designers to inspire their own ideas. The Bird Box project challenges students to design and manufacture a functional outdoor product that reflects the style of a chosen movement. Key skills developed include **isometric and two-point perspective drawing**, **orthographic projection**, and **annotation techniques** to communicate design intent. Students also create cutting lists, apply CAD for 2D and 3D design, and gain practical experience in the workshop, focusing on measuring, marking out, cutting, assembly, and surface decoration. Sustainability principles and material finishes are embedded throughout the project, which concludes with a **plan of manufacture**, a **completed bird box**, and a detailed **evaluation** of design decisions and modifications.

In the Spring Term, students complete a practice NEA project focused on designing and making an innovative kitchen storage solution. The project begins with a **task analysis** to identify user needs, problems, and design restrictions, followed by creating a detailed **client profile** through interviews and research. Students analyze existing products to understand cost, function, and aesthetics, and use this research to develop design possibilities and write a clear design specification. They then generate and annotate **three distinct design ideas**, incorporating client feedback to refine concepts. Practical modelling and testing are used to evaluate ideas, with improvements documented through sketches and annotations. The project concludes with a **final design presentation**, a **plan of manufacture**, and a **cutting list**, ensuring students demonstrate both creative and technical skills while considering sustainability and user-centered design principles.

In the Summer Term, students complete a mini-Design & Technology skills-building project designed to prepare them for the Non-Examined Assessment (NEA) starting on the 1st of June. Students will focus on building confidence and competence in core workshop skills through a hands-on practical project. This mini project emphasizes accurate **measuring, marking, and cutting techniques**, alongside safe and effective use of tools and equipment. The learner practices **joining methods** such as screws, nails, and adhesives, and explores **surface finishing techniques** including sanding, painting, and varnishing to achieve a professional standard. The project also introduces simple decorative processes and reinforces the importance of **tolerance and accuracy** in manufacturing. Students produce a small functional product—such as a phone stand or desk organizer—and complete a short evaluation of their process and outcome. This practical experience ensures students are well-prepared for more complex tasks in future coursework.

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Week Number	Themes/ Topics	Key Knowledge & Skills	Key Assessments
Autumn Term	Bird House/ Design Movements	- Investigating the work of designers and art movements (e.g., Memphis, Arts & Crafts) - Understanding and applying design briefs and client profiles - Generating initial ideas inspired by chosen design movement - Sketching techniques: isometric and two-point perspective - Annotating designs with materials, dimensions, and client feedback - Producing orthographic drawings and cutting lists - CAD skills for 2D/3D design - Practical workshop skills: measuring, marking out, cutting, sanding, assembly - Surface decoration and wood finishes - Sustainability principles (6Rs) - Creating a plan of manufacture and evaluating design decisions	- Client profile and research - Mood board and designer analysis - Initial design ideas and annotations - Final perspective drawing assessment - Orthographic projection and cutting list - Completed bird box product - Written evaluation and modifications
Spring Term	Kitchen Storage – NEA Practice Project	- Understanding and applying a design brief for an innovative storage solution - Task analysis: identifying user needs, problems, and design restrictions - Creating a detailed client profile and conducting interviews - Researching existing products and analyzing cost, function, and aesthetics - Developing design possibilities and writing a clear design specification - Generating and annotating three design ideas with client feedback - Modelling and testing ideas using card and other materials - Refining designs based on client feedback and testing - Producing a final design, plan of manufacture, and cutting list	- Completed analysis pages (task analysis, client profile, existing products) - Annotated design ideas with client opinions - Modelling and testing evidence with improvements - Final design presentation - Plan of manufacture and cutting list - Evaluation of design decisions and refinements
Summer Term	Mini NEA Practical Skills Project – NEA Preparation	- Understanding NEA requirements and assessment objectives - Consolidating workshop safety and tool handling - Measuring, marking out, and cutting techniques for wood and other materials - Joining methods (e.g., screws, nails, adhesives) - Surface finishing techniques (sanding, painting, varnishing) - Introduction to simple decorative processes - Creating a basic plan of manufacture - Applying tolerance and accuracy in practical work - Evaluating the quality of the finished product and suggesting improvements	- Completed practical product (e.g., small wooden item such as a phone stand or desk organizer) - Evidence of accurate measuring and marking out - Correct use of tools and safe working practices

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