



Year 7 Design & Technology



AUTUMN TERM

Design and Make Project (BIRDFEEDER)

Apply design skills to create a simple product, following the design process from idea to prototype.

- **Workshop Safety:** Learn and apply key health and safety rules to work safely in the workshop environment.
- **Softwood vs. Hardwood:** Understand the differences between softwood and hardwood.
- **Basic Orthographic Drawing:** Develop skills to produce clear, accurate orthographic drawings.

SPRING TERM

- **Introduction to Rendering:** Understand what rendering is and learn how to add depth and texture to simple shapes.
- **Logos and Brand Identity:** Explore what a logo is and how brand identity helps companies connect with their audience.
- **Understanding Product Analysis:** Learn why designers use product analysis to improve and develop successful products.

SUMMER TERM

Design and Make Project (UPCYCLED LIGHTING)

Apply design skills to create a simple product, following the design process from idea to prototype.

- **Understanding Upcycling:** Explore the concept of upcycling and how it contributes to sustainability by repurposing materials for new products.
- **Applying the 6R's:** Learn about the 6R's (Reduce, Reuse, Recycle, Repair, Refuse, and Rethink)
- **Designing for Functionality:** Develop design ideas that prioritise functionality and aesthetics while minimising environmental impact.

YEAR 7 CURRICULUM OVERVIEW

Students will be introduced to the basics of design and technology, focusing on developing foundational skills in drawing, modeling and making activities. With a focus on both product design and graphic products, they will engage in small projects that emphasise creativity and practical problem solving. Students will learn to communicate their ideas through simple sketches while working on creating both simple products and graphic designs. Theory lessons will cover the introduction to materials and their properties, basic safety, and equipment usage in the workshop. Additionally, students will learn about the impact of design and technology on society and the environment.



Year 8 Design & Technology



AUTUMN TERM

Design and Make Project (BLOCK BOT)

Apply design skills to create a simple product, following the design process from idea to prototype.

- **Improving Workshop Skills:** Build practical workshop skills by manipulating materials to achieve a high standard in projects.
- **Perspective Techniques:** Learn the difference between 1-point and 2-point perspective to create realistic drawings.
- **Isometric Drawing Skills:** Develop the ability to create isometric drawings using the grid method for accurate representations.

SPRING TERM

- **Rendering Products:** Enhance rendering skills by practicing how to effectively render various products.
- **Applying Finishes to Softwoods:** Understand the reasons for applying finishes to softwoods to enhance their appearance and durability.
- **Importance of Product Evaluation:** Learn why evaluating products is essential for improving design and meeting user needs.

SUMMER TERM

Design and Make Project (TUNNEL BOOK - GRAPHIC PRODUCTS)

Apply design skills to create a simple product, following the design process from idea to prototype.

- **Introduction to Tunnel Books:** Learn about tunnel books and how they tell stories in 3D using layered designs.
- **Layering Techniques:** Learn how to use layered paper to add depth with foreground, middleground and background elements.
- **Construction Skills:** Develop practical skills in cutting, folding, and assembling materials to create a sturdy tunnel book structure.

YEAR 8 CURRICULUM OVERVIEW

Building on the foundations of Year 7, students will explore more advanced techniques in both product design and graphic products. They will undertake design projects that encourage them to think about user needs and functionality, creating detailed sketches and models. Practical work will involve hands on projects, while theory lessons will focus on a deeper understanding of materials and their properties. Towards the end of Year 8 students will engage in a graphic products focussed project, where they will learn and apply skills such as precision cutting, layering, and creating depth through perspective. This project will challenge them to combine creativity with technical skill, as they design and construct a three-dimensional scene within the book format. Throughout the process, students will refine their abilities in both manual crafting and visual storytelling, while continuing to develop their understanding of how different materials and techniques can be used to achieve specific design outcomes.



Year 9 Design & Technology



AUTUMN TERM

Design and Make Project (PASSIVE AMPLIFIER - GRAPHIC PRODUCTS)

Build on design skills to develop more complex products, using CAD software and refining ideas through iterative design work.

- **Introduction to CAD:** Begin using Computer-Aided Design (CAD) software to design products digitally.
- **Advanced Drawing Techniques:** Learn to create detailed orthographic and isometric drawings to communicate design ideas.

SPRING TERM

- **Developing 3D Modelling Skills:** Practice using 3D modelling software or techniques to bring designs to life digitally. **SketchUp** - <https://www.sketchup.com>
- **Evaluating Products:** Understand how to evaluate and improve designs based on user feedback and testing.
- **Industry Links and Careers in Design:** Learn about careers in design, engineering and technology, while exploring real-world industry applications.

SUMMER TERM

Design and Make Project (PEWTER CAST KEYRING)

Build on design skills to develop more complex products, using CAD software and refining ideas through iterative design work.

- **User-Centered Approach:** Ensuring your design ideas meet the needs and preferences of the intended user, with a focus on functionality and appeal.
- **Introduction to Manufacturing Processes:** Learn about manufacturing techniques like pewter casting, sand casting and injection molding.

YEAR 9 CURRICULUM OVERVIEW

Students will enhance their design and technology skills by engaging in more complex projects that require a higher level of creativity and technical proficiency. They will work on designing and making products using both Computer Aided Design (CAD) skills and Computer Aided Manufacturing (CAM) techniques. Theory lessons will introduce students to iterative design and user-centered approaches, as well as introducing students to different manufacturing processes. Students will also begin to prepare for the transition to GCSE level coursework by developing a more structured approach to their projects and evaluations.



Year 10 Design & Technology



AUTUMN TERM

Design and Make Task

Students will be working on design & make assignment to develop the following skills:

- Produce a Design Brief & Specification
- Designing and Developing
- Working with CAD/CAM
- Modelling and Prototyping
- Practical Skills
- Working Drawing
- Evaluation

Theory

Students will be working on the following unit:

- Unit 1 - Approaches to Designing

SPRING TERM

Design and Make Task

Students will be working on a design & make assignment to develop the following skills:

- Produce a Design Brief & Specification
- Designing and Developing
- Modelling and Prototyping
- Practical Skills
- Working Drawing

Theory

Students will be working on the following unit:

- Unit 2 - Designing Products

SUMMER TERM

NEA Coursework Task (set by AQA)

- Communicating and developing ideas through a digital design portfolio
- Responding to a brief and establishing client needs
- Planning and recording research

Theory

Students will be working on the following unit:

- Unit 3 - Energy and Mechanisms

YEAR 10 CURRICULUM OVERVIEW

Students will develop and strengthen their CAD CAM skills and how this can be used for modelling. They will design for a specific client within a context, communicating their ideas through the use of a detailed digital portfolio. Students will generate, model, test and evaluate their ideas, communicating this in a clear and logical way. Theory lessons throughout Year 11 will focus upon Approaches to designing, Designing Products and Energy & Mechanisms. Student will be given guidance on how to retrieve and apply their learning in preparation for the external examination.



Year 11 Design & Technology



AUTUMN TERM

NEA Coursework Task (set by AQA)

- Developing, testing, modelling and evaluating ideas against a design specification
- Working accurately to produce a high quality outcome

Theory

Students will be working on the following unit:

- Unit 4 - Materials and Properties

SPRING TERM

NEA Coursework Task (set by AQA)

- Working accurately to produce a high quality outcome
- Evaluating outcomes and work in progress

Theory

Students will be working on the following units:

- Unit 5 - Tools, Equipment and Processes
- Unit 6 - New and Emerging Technologies

SUMMER TERM

Focused Retrieval & Revision Tasks Exam Practice

YEAR 11 CURRICULUM OVERVIEW

Students will make supported, independent progress with their coursework task worth 50% of their final GCSE. This will be a design and make project based upon a theme set by the exam board. Theory work will focus upon New and Emerging Technologies, whilst broadening their understanding of materials and Properties including: Tools , Equipment and Processes.



Year 12 Design & Technology



AUTUMN TERM

Mid Century Modern Project Materials Technology Design and Manufacturing Principles

- Design methods and processes
- Design theory
- Plastic - properties, processes and application
- Investigating a design movement and generating ideas

SPRING TERM

Mid Century Modern Project Materials Technology Design and Manufacturing Principles

- Technology and cultural changes.
- Design processes
- Metals - properties, processes and application
- Testing and experimenting with a range of materials and processes

SUMMER TERM

Materials Technology Design and Manufacturing Principles Individual Coursework Task

- Selecting appropriate tools, equipment and processes
- Woods - properties, processes and application
- Establishing a brief and client needs
- Planning, initiating and recording research
- Smart materials and advances in technology

YEAR 12 CURRICULUM OVERVIEW

Students will further develop their design skills, looking at new ways to communicate with a strong design influence taken from the Mid-Century modern design movement. They will expand their workshop skills by experimenting with a broad range of materials and processes and they will apply theory content to a range of contexts. Theory lessons will focus upon design theory along with the study of further materials and processes, the application of new technologies and wider social, environmental and economic factors.



Year 13 Design & Technology



AUTUMN TERM

**Materials Technology
Design and Manufacturing Principles
NEA Coursework Task**

- Accuracy in design and manufacture
- Responsible design
- Industrial manufacturing
- Health and safety
- Patents and international property

SPRING TERM

**Materials Technology
Design and Manufacturing Principles
NEA Coursework Task**

- Design for manufacture, project management
- National/international standards in product design
- Enterprise and marketing, product development and design communication

SUMMER TERM

**Focused Revision Tasks
Exam Practice
Completion and submission of NEA**

YEAR 13 CURRICULUM OVERVIEW

Students will make supported, independent progress with their coursework task worth 50% of their final A Level. This will be a substantial design and make project with a genuine client and challenging context. Theory lessons throughout Year 13 will focus upon materials technology, the application and selection of manufacturing processes, responsible design, legislation and standards.