



Curriculum Maps 2024-2025

Work Hard, Be Kind, Have Passion

Design Technology



Curriculum Intent

Work Hard, Be Kind, Have Passion

The Design & Technology (D&T) curriculum is designed to inspire and equip students with the creativity, critical thinking, and practical skills needed to become innovative problem-solvers and informed citizens. Our department is committed to fostering a deep understanding of the design process, enabling students to identify and respond to real-world challenges through imaginative solutions. We aim to develop students who are confident in their ability to use a range of materials and technologies to create functional and aesthetically pleasing products.

At KS3, students are introduced to the fundamentals of design and technology, with a focus on developing a broad base of skills across different material areas. Projects are designed to build progressively, allowing students to experience the full design process from initial concept through to final product evaluation.

HGSS Curriculum Map

Year 7 Design Technology



Exam Board: N/A		Careers: Designer, Engineer, Architect,			Co-Curricular: Technology Tournament		Sequencing: Year 8-Night Light – Design Ideas, Use of CAD/ CAM & finishing products to a high standard	
	Rotation 1 Au1	Rotation 1 Au1	Rotation 1 Sp1	AP1 Rotation 1	Rotation 2 Sp2	Rotation 2 Su1	Rotation 2 Su2	AP2 Rotation 2
Content	Desk Tidy – Research & Design Ideas	Desk Tidy – Developing Ideas	Desk Tidy – Making Prototypes		Desk Tidy – Research & Design Ideas	Desk Tidy – Developing Ideas	Desk Tidy – Making Prototypes	
Skills:	Undertake relevant research understanding client's needs & wants. Write a brief & specification. Create a range of design ideas	Card modelling to test & develop ideas. Respond to client feedback. Learn how to shape timber.	Develop ability to shape timber Use of CAD/ CAM Assemble & finish products to a high quality	Research & Design & Development in E Book. Practical Outcome – Desk Tidy	Undertake relevant research understanding client's needs & wants. Write a brief & specification. Create a range of design ideas	Card modelling to test & develop ideas. Respond to client feedback. Learn how to shape timber.	Develop ability to shape timber Use of CAD/ CAM Assemble & finish products to a high quality	Research & Design & Development in E Book. Practical Outcome – Desk Tidy

HGSS Curriculum Map

Year 8 Design Technology



Exam Board: N/A		Careers: Designer, Engineer, Architect,			Co-Curricular: FTC Challenge		Sequencing: Year 9 Design Ideas Learn to use a range of tools. Develop CAD / CAM	
	Rotation 1 Au1	Rotation 1 Au1	Rotation 1 Sp1	AP1 Rotation 1	Rotation 2 Sp2	Rotation 2 Su1	Rotation 2 Su2	AP2 Rotation 2
Content	Night Light – Design Ideas CAD / CAM	Night Light - Electronics	Night Light – Shaping materials Joining different materials	Research & Design & Development in E Book. Practical Outcome – Night Light	Night Light – Design Ideas CAD / CAM	Night Light - Electronics	Night Light – Shaping materials Joining different materials	Research & Design & Development in E Book. Practical Outcome – Night Light
Skills:	Create a range of designs Develop understanding of	Understand basic components Learn how to solder Wood joints	Learn how to shape timber & plastic Develop use of tools		Create a range of designs Develop	Understand basic components Learn how to solder	Learn how to shape timber & plastic Develop use of	

HGSS Curriculum Map

Year 9 Design Technology Specialism



Exam Board: N/A		Careers: Designer, Engineer, Architect,			Co-Curricular: FTC Challenge		Sequencing: Develop practical skills & context based projects	
	Autumn 1	Autumn 2	Spring 1	AP1	Spring 2	Summer 1	Summer 2	AP2
Content	Tray - Wood Joints	Tray – Drawing Skills High Quality Finish	Plastics - Pen Holder	Tray E-book. Designs Drawing skills	Plastics - Pen Holder	Context Based Project	Context Based Project	E Book from Context Based Project
Skills:	Range of wood joints How to cut external & internal shapes Materials & their properties (timber) Sources & Origins Working with materials	Orthographic Drawing CAD skills Stock Forms Surfaces & Treatments	CAD/ CAM Strip Heater & Oven Materials & their properties (plastics)	Theory Practical Outcome - Tray	Vac Forming 3D Printing Ecological & Social Footprint	Research Design Ideas Presentation Development of Ideas	Selection of Materials Material Management Plan of Making Independent application of practical skills	Research, Designs, Development. Practical Outcome – Independent project

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Year 10 Design Technology



Exam Board: AQA			Careers: Designer, Engineer, Architect,		Co-Curricular: FTC Challenge		Sequencing: Preparation for NEA & Content for written exam	
	Autumn 1	Autumn 2	Spring 1	AP1	Spring 2	Summer 1	Summer 2	AP2
Content	Toothbrush Timer	Toothbrush Timer	Mechanism Challenge & Keyring project	Toothbrush Timer E-book. CAD skills Theory Practical Outcome – Toothbrush Timer	Practice NEA Sec A,B & C	Practice NEA Sec D,E & F	Sec A & B NEA	Mock Paper
Skills:	Recap soldering. Recap categories of plastics Programmable components	System & Control Develop CAD/ CAM – Laser Cutting Shaping plastics	Mechanical Devices Team work Solving real world problems Shaping timbers. Timber sources & stock forms CAD / CAM – 3D printing		Analyse a context Research Brief & Spec Design Ideas	Developing Ideas Manufacturing practical outcome Evaluating Ideas	Analyse a context Research Brief & Spec	

HGSS Curriculum Map

Year 11 Design Technology



Exam Board: N/A			Careers: Designer, Engineer, Architect,		Co-Curricular:		Sequencing:	
	Autumn 1	Autumn 2	Spring 1	AP1	Spring 2	Summer 1	Summer 2	AP2
Content	NEA Sec C & D	NEA Sec D & E	NEA Sec E & F	NEA & Mock Paper	Revision for Written Exam	Revision for Written Exam		
Skills:	Design Ideas Development of Ideas	Develop Ideas Manufacture Prototype	Manufacture Prototype Evaluate prototype					

HGSS Curriculum Map

Year 12 Product Design



Exam Board: AQA		Careers: Designer, Engineer, Architect,		Co-Curricular: FTC Challenge		Sequencing:	
Autumn 1	Autumn 2	Spring 1	AP1	Spring 2	Summer 1	Summer 2	AP2
Performance & Characteristics of Polymers	Processing & Working with Polymers	Characteristics of Timbers Processing & working with Timbers	Flat Pack Light Folder Research Designs Material Testing & Development of Ideas Practical Outcome - Light	Performance Characteristics of Metals Processing & working with Metals	Composite Smart & Modern Materials	Characteristics of Papers & Boards Processing & working with Papers & Boards	Mock Paper
CAD/ CAM Plastic manufacturing processes Develop maths skills Understand Performance & Characteristics of Polymers	Develop sketching & presentation of design ideas Use modelling & material testing to develop ideas Understand Processing & Working with Polymers	Timber manufacturing process Laminating timber to create curves High quality products & finishes Understand Performance Characteristics of Timbers & Processing & working with Timbers		Pewter casting Develop CAD skills Quality of finish Understand Performance Characteristics of Metals & Processing & working with Metals	Pewter casting Develop CAD skills Quality of finish Understand Composite Smart & Modern Materials	Develop a context Undertake all research needed Write a brief & specification Understand the Performance Characteristics of Papers & Boards & Processing & working with Papers & Boards	

HGSS Curriculum Map

Year 13 Product Design



Exam Board: AQA		Careers: Designer, Engineer, Architect,			Co-Curricular:		Sequencing:	
	Autumn 1	Autumn 2	Spring 1	AP1	Spring 2	Summer 1	Summer 2	AP2
Content	NEA Sec C & D Modern Industrial & Commercial practice	NEA Sec D & E Product Design considerations	NEA Sec E & F Product Design and Development	NEA & Mock Paper	Revision Design methods	Revision Design processes & Responsible Design		
Skills:	Wide range of design ideas using a wide range of strategies & communication skills. Develop a final solution by using a range of techniques such as modelling, drawing & CAD. Understand Modern Industrial & Commercial practice	Develop a final solution by using a range of techniques such as modelling, drawing & CAD. Use a range of tools and equipment including CAD CAM to make the final prototype Understand Product Design considerations	Use a range of tools and equipment including CAD CAM to make the final prototype. Test and evaluate the final prototype against the specification. Understand Product Design and Development		Revise for written exams Understand Design methods	Revise for written exams Understand Design processes & Responsible Design		