

Design and Technology (DT) Curriculum Map

Key Stage 3: Group 4 - Year 7

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
DT	DT	DT	DT	DT	DT
<p>Group 4 DT (KS3)</p> <p>What is Design and Technology?</p> <p>Workshop Health and Safety – Rules and expectation</p> <p>Frame Project –</p> <p>Project introduction – Task analysis – exploring all the aspects of the project that will need to be explored.</p> <p>Exploring Product analysis.</p> <p>Where does timber come from? Sustainability, Measuring and marking, Cutting, Joining, Shaping, Drilling, finishing, assembling, Working with pine, MDF and acrylic,</p>	<p>Group 4 DT (KS3)</p> <p>Recap workshop Health and safety</p> <p>Frame Project continued:</p> <p>Bench drill health and safety, Testing and evaluation</p> <p>Students identifying tools and materials.</p> <p>Students leaning about soft/hard wood and manmade materials.</p> <p>Students leaning about branding and social aspect of design.</p> <p>Learning about British designers.</p> <p>Learning how to measure</p>	<p>Group 4 DT (KS3)</p> <p>Frame Project continued:</p> <p>To design and make final a product.</p> <p>To be able to creatively use skills and techniques to make their own individual outcomes.</p> <p>To be able to write an evaluation and suggest improvements.</p> <p>End of unit test</p>	<p>Group 4 DT (KS3)</p> <p>Cam toy project – mechanisms: What is a mechanism, Types of motion, forces, lever linkages and cams, 3D modelling with paper and card, Design ideas</p> <p>Exploring industry and a range of different inventors.</p> <p>Teacher assessments</p> <p>Teacher assessments</p>	<p>Group 4 DT (KS3)</p> <p>Cam toy project – mechanisms continued:</p> <p>Manufactured boards, Measuring and marking, Cutting, shaping, joining and finishing MDF, Testing and evaluation</p> <p>Exploring levers and being able to identify Load, Effort and Fulcrum.</p> <p>Exploring sustainability and the 6R's</p> <p>Reuse</p> <p>Repair</p> <p>Recycle</p> <p>Rethink</p> <p>Reduce</p> <p>Refuse</p>	<p>Group 4 DT (KS3)</p> <p>Cam toy project continued:</p> <p>Health and safety, Using hand tools, joining materials; art straws, lollipop sticks, MDF, pine, Lego - Testing and evaluating Cam</p> <p>End of unit test</p>

SMSC / FBVs:

Creative thinking and innovation inspires undiscovered talents leading to self-confidence and belief in abilities. Creative instincts. Wider impacts on the environment when designing and making new products. Sustainable thinking. Avoiding waste when making. Self-regulation of behaviour; responsibility for one another through health and safety practice. Understanding the need to follow rules and instruction when making. Conversations about the work we do through self & peer assessment; constructive criticism and respecting opinions. Cultural design influences from around the world. Designing to meet the needs of target markets.

Literacy: Understanding and applying Keywords relating to various topics. Naming and identifying tools and equipment. Product analysis – discussing and writing about products. Annotation of design ideas. Written evaluation; peer/self-assessment. Oral communication – sharing and presenting ideas. Production plans/making diaries – describing processes. Learning is supported by literacy focused starters and literary maps.

Numeracy: Measuring and marking, drawing methods, shapes, understanding dimensions, units of measurement, CAD/CAM settings, working to specific measurements.

ICT: Computer aided design and Computer aided manufacture. Research for projects. Lesson presentation; interactive whiteboard and video.

Design and Technology (DT) Curriculum Map

Key Stage 3: Group 3 - Year 8

Autumn 1 DT	Autumn 2 DT	Spring 1 DT	Spring 2 DT	Summer 1 DT	Summer 2 DT
<p>What is Design and Technology?</p> <p>Workshop Health and Safety – Rules and expectation</p> <p>Paper engineering Project – Pop up cards: What is a target market? Exploring themes, What is a design brief? What is a specification? Research responsibilities of designers and branding.</p> <p><u>Teacher assessments</u></p>	<p>Paper engineering Project – Pop up cards continued: Conducting primary and secondary.</p> <p>Exploring a range of different mechanisms? Exploring a range of different fonts?</p> <p>Exploring materials and impact on the environment.</p> <p>Developing Practical Skills, learning to use tools effectively.</p> <p><u>End of unit test</u></p>	<p>Paper engineering Project – Pop up cards continued: Developing Practical Skills, learning to use tools effectively. Learn to develop designs further and make improvements. To design and make final a product.</p> <p>To be able to creatively use skills and techniques to make their own individual outcomes.</p> <p>To be able to write and evaluation and identify strengths and weaknesses.</p>	<p>Group 3 DT (KS3)</p> <p>Paper engineering Project – Pop up cards continued: To design and make final a product.</p> <p>To be able to creatively use skills and techniques to make their own individual outcomes.</p> <p>To be able to write an evaluation and suggest improvements.</p>	<p>Group 3 DT (KS3)</p> <p>Mini torch project: Produce analysis of different lights, membrane switches and products that contain membrane switches, Electronic components, Health and safety, Situation and brief. Circuit diagram using Crocodile Clips.</p> <p>Research themes, Produce sketches</p> <p><u>Teacher assessments</u></p>	<p>Group 3 DT (KS3)</p> <p>Mini torch project: continued: Manufacture the torch - Produce MDF patterns using appropriate hand tools machinery and potentially CAD CAM – laser cutter. Most students will create a blister package created using a vacuum former to hold both the circuit and the graphic image, Testing and evaluation</p> <p><u>End of unit test</u></p>

<p>SMSC / FBVs: Creative thinking and innovation inspires undiscovered talents leading to self-confidence and belief in abilities. Creative instincts. Wider impacts on the environment when designing and making new products. Sustainable thinking. Avoiding waste when making. Self-regulation of behaviour; responsibility for one another through health and safety practice. Understanding the need to follow rules and instruction when making. Conversations about the work we do through self & peer assessment; constructive criticism and respecting opinions. Cultural design influences from around the world. Designing to meet the needs of target markets.</p> <p>Literacy: Understanding and applying Keywords relating to various topics. Naming and identifying tools and equipment. Product analysis – discussing and writing about products. Annotation of design ideas. Written evaluation; peer/self-assessment. Oral communication – sharing and presenting ideas. Production plans/making diaries – describing processes. Learning is supported by literacy focused starters and literary maps.</p> <p>Numeracy: Measuring and marking, drawing methods, shapes, understanding dimensions, units of measurement, CAD/CAM settings, working to specific measurements.</p> <p>ICT: Computer aided design and Computer aided manufacture. Research for projects. Lesson presentation; interactive whiteboard and video.</p>					

Design and Technology (DT) Curriculum Map

Key Stage 3: Group 2 - Year 9

Autumn 1 DT	Autumn 2 DT	Spring 1 DT	Spring 2 DT	Summer 1 DT	Summer 2 DT
<p>Group 2 DT (KS3)</p> <p>Graphic design project:</p> <p>Exploring a range of different technical drawing skills e.g Perspective drawing 1st, 2nd and 3rd point of view.</p> <p>To effectively use the light box.</p> <p><u>Teacher assessments</u></p>	<p>Group 2 DT (KS3)</p> <p>Graphic design project:</p> <p>Exploring a range of different technical drawing skills e.g Isometric drawing, line of symmetry, geometric form and shapes. pattern techniques e.g 8 point tile and parabolic curve.</p> <p><u>End of unit test</u></p>	<p>Group 2 DT (KS3)</p> <p>Graphic design project:</p> <p>Exploring colour theory, texture, styles, fashion, and movements. Researching the works of Paul Smith – Josh Bryan and Harry Beck.</p> <p><u>Teacher assessments</u></p>	<p>Group 2 DT (KS3)</p> <p>Storage project: Box joints, Context - storage in the home/bedroom. Design and manufacture of a timber based storage container, Timber theory, Isometric drawing or perspective of a 'standard' box design</p> <p><u>End of unit test</u></p>	<p>Group 2 DT (KS3)</p> <p>Storage project continued: Health and safety, Keeping a making diary, Manufacture box to given measurements, Design and manufacture a 'custom lid' for the container. Ideally involving the use of CAD/CAM, Testing and evaluating</p> <p><u>End of unit test,</u></p>	<p>Group 2 DT (KS3)</p> <p>Storage project continued:</p> <p>Evaluation: To be able to write an evaluation and suggest improvements.</p> <p>Exploring manufacturing aids - e.g. jigs, tools and templates, quality control</p>

					<u>End of unit test</u>
<p>SMSC / FBVs: Creative thinking and innovation inspires undiscovered talents leading to self-confidence and belief in abilities. Creative instincts, Develop ‘moral conscience’ avoiding waste when making. Wider impacts on the environment when designing and making new products; choice of material & components when designing and making. Sustainable thinking, Application of the ‘6 R’s’. Self-regulation of behaviour responsibility for one another through health and safety practice. Understanding the need to follow rules and instruction when making. Conversations about the work we do through self & peer assessment; constructive criticism and respecting opinions. Design influences from around the world. Designing to meet the needs of target markets.</p> <p>Literacy: Understanding and applying Keywords relating to various topics, Naming and identifying tools and equipment. Product analysis - writing about products. Annotation of design ideas. Written evaluation, peer/self-assessment. Oral communication – sharing and presenting ideas. Production plans/making diaries – describing processes. Learning is supported by literacy focused starters and literary maps.</p> <p>Numeracy: Measuring and marking. 3D drawing methods, shapes. Understanding dimensions, units of measurement. CAD/CAM; drawing, dimensioning and machine settings, working to specific measurements. Using timers on machines.</p> <p>ICT: Computer aided design, Computer aided manufacture. Research for projects. The use of video to record processes. Lesson presentation; interactive whiteboard and video.</p>					

Design and Technology (DT) Curriculum Map

Key Stage 4 & Post 16: Group 1 - Years 10, 11, 12, 13

Autumn 1 DT	Autumn 2 DT	Spring 1 DT	Spring 2 DT	Summer 1 DT	Summer 2 DT
In year 1/2 pupils will study projects that will be certificated through the AQA Unit Award Scheme (UAS) and cover the main areas of the AQA GCSE specification.					
Group 1 – Year 1 (KS4) Sketch modelling – Inclusive design: What is a design context? What is inclusive design? Anthropometrics, Ergonomics Identifying & Investigating Design Possibilities, Product analysis and disassembly, Design criteria	Group 1 – Year 1 (KS4) Sketch modelling – Inclusive design continued: 3D Drawing techniques – rendering, Plastics theory, Plastic production, sustainability and the environment, Health and safety, Cutting and shaping polystyrene foam, Testing and evaluating <u>End of unit test</u>	Group 1 – Year 1 (KS4) Storage project: Box joints, Context - storage in the home/bedroom. Design and manufacture of a timber based storage container, Timber theory, Isometric drawing or perspective of a ‘standard’ box design <u>Teacher assessments</u>	Group 1 – Year 1 (KS4) Storage project continued: Health and safety, Keeping a making diary, Manufacture box to given measurements, Design and manufacture a ‘custom lid’ for the container. Ideally involving the use of CAD/CAM, Testing and evaluating <u>End of unit test</u>	Group 1 – Year 1 (KS4) Designer influences (clock): Investigate a well-known product design company, Explore the work of British designers past and present, Research the use of time pieces, generate a design brief and spec, Design strategies, The impact of manufacturing on society <u>Teacher assessments</u>	Group 1 – Year 1 (KS4) Designer influences (clock) continued: Manufacturing methods, Manufacturing aids, Scales of production – batch production, Health and safety, Manufacturing specification, Production of a prototype, Testing and evaluating

<u>Teacher assessments</u>					<u>End of unit test</u>
Group 1 – Year 2 (KS4) Unit Award Scheme Health and safety in design and technology Correct use of tools	Group 1 – Year 2 (KS4) Unit Award Scheme Designing and making a toy	Group 1 – Year 2 (KS4) Unit Award Scheme Evaluating existing products	Group 1 – Year 2 (KS4) Unit Award Scheme Making kites	Group 1 – Year 2 (KS4) Unit Award Scheme Designing and making a plague	Group 1 – Year 2 (KS4) Unit Award Scheme Marketing and launching a new product
Group 1 – Year 2 (KS4) GCSE AQA Non examined assessment (NEA) – Following the context provided by the examination board.				Exam practice and preparation	Sit GCSE Examinations
Post 16 DT Pupils studying at post 16 level can follow the AQA Unit Award Scheme or GCSE DT as outlined above.					
<u>Additional Courses</u> Post 16 pupils can also follow DT related ASDAN Courses.					
SMSC / FBVs: Creative thinking and innovation inspires undiscovered talents leading to self-confidence and belief in abilities. Creative instincts, Develop ‘moral conscience’ focusing upon the moral dilemmas arising in designing and making new products. Wider impacts on the environment when designing and making new products, choice of material & components when designing and making. Sustainable thinking, Application of the ‘6 R’s’, Impact of manufacture on society, self-regulation of behaviour responsibility for one another through health and safety practice. Understanding the need to follow rules and instruction when making. Conversations about the work we do through self & peer assessment; constructive criticism and respecting opinions. Cultural awareness in DT – UK designers past and present and design influences from around the world, Inclusive design to meet the needs of all.					
Literacy: Understanding and applying Keywords relating to various topics, Naming and identifying tools and equipment, Product analysis - writing about products, Annotation of design ideas, Written evaluation, peer/self-assessment, Oral communication – sharing and presenting ideas, Production plans/making diaries – describing processes. Learning is supported by literacy focused starters and literary maps.					
Numeracy: Measuring and marking, 3D drawing methods, shapes, understanding dimensions, units of measurement, CAD/CAM settings, working to specific measurements, flowcharts and timing, using timers on machines					
ICT: Computer aided design, Computer aided manufacture, Research, Presenting design portfolios, the use of video to record processes, lesson presentation; interactive whiteboard and video.					