KS3 Year 7: 2023-24
Overall Curriculum Intent for Design & Technology

The curriculum intent of Design & Technology is for pupils gain experience of a wide range of practical skills and processes through a multi-disciplinary approach, which develops resilience, reasoning and problem-solving skills. Creativity, imagination and technical understanding are combined to equip our pupils with essential life skills and a love of product design and manufacture. By the end of their five-year journey pupils will have a deep understanding of how a range of factors and stimuli effect how products are design, used, manufactured and disposed of. More important the short-, medium- and long-term impacts products have not just the user but the environment and world they live in. They will also develop their investigation, design, development manufacture and evaluation skills through a range of design, practical projects through the use of workshop equipment and CAD/CAM.

	Half Term 1	**Half Term 2**	**Half Term 3**	**Half Term 4**	**Half Term 5**	**Half Term 6**
Knowledge Introduced	Key-Fob & Stand To include; Within this unit pupils will develop a range of design and manufacturing skills. These skills include drawing, prototyping and shaping materials, whilst doing so using the correct equipment safely and competently. These skills are transferable between technology areas and life skills for their future.	Key-Fob & Stand To include; The second part of the project will focus on edge treatment of plastics and cold forming of metals. Material origins will be introduced and pupils learn practically about material properties with a view to inform their future design and manufacturing decisions.	Healthy Cereal Design - Planning & Initial Ideas To include; Within this unit you will develop a range of hand design skills and packaging communication skills. These skills include using analysis, planning, 2D/3D drawing, development and improve initial designs, whilst doing so using user information to design a product.	Healthy Cereal Design - Development & Manufacture To include; Produce developed final outcomes form planning and initial idea work form HT1. Remaining 3 weeks to include skills sessions on • Sketching • Drawing 2D/3D • Rendering	CAD/CAM Desk - Tidy To include; Within this unit pupils will develop a range of CAD and hand design skills and manufacture a product using CAM. These skills include using TechSoft 2D to accurately draw, edit and improve computer based designs, whilst doing so using the correct software accurately and competently.	CAD/CAM Desk - Tidy To include; Once research, designed and completed pupils will manufacture using the CNC equipment and finish the product by shaping and bending it. These skills are transferable between technology areas and life skills for their future.
Key vocabulary/ concepts/ideas students must master	Client Template Prototyping Rendering Wasting Edge Treatment Hazard	Quality Assurance Quality Control Hazard Risk Prevention Threading Assembly	Analysis Design Brief Initial Ideas Target User Ghost Lines Market Influences Quality Assurance Modify Solution	Layout Rendering Assembly Scalability Development Analyse Gradient Sketch	Computer aided design Computer Aided Manufacture Computer Numerically Controlled Development Template Laser Cutter	Development Template Laser Cutter Line Bender Thermosetting Plastic Thermoforming Plastics Contour
Knowledge revisited	Introduction to workshop skills and safety knowledge for manufacture products by hand. To be built upon in Y8, focusing on a different material (timber).	Introduction to workshop skills and safety knowledge for manufacture products by hand. To be built upon in Y8, focusing on a different material (timber).	Building on KS2 basic design and model making skills. This will be largely limited and varied. Pupils should have some knowledge of healthy diets.	Building on KS2 basic design and model making skills. This will be largely limited and varied. Pupils should have some knowledge of healthy diets.	Introduction to CAD/CAM skills and safety knowledge for manufacture products using CNC machinery.	Introduction to CAD/CAM skills and safety knowledge for manufacture products using CNC machinery.
CEIAG Links/ Opportunities	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4

KS3 Year 8 2023-24
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	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5 (in-between)	Half Term 6 (in-between)
Knowledge Introduced	Bookend – Workshop Practical Marking Out Wasting To include; Within this unit pupils will be learning hands on practical skills along with drawing in different styles. Pupils need to be able to work accurately and precisely to produce a final outcome. Pupils will be introduced to a range f marking our and wasting equipment to produce finger joints.	Bookend – Workshop Practical Edge Treatment Assembly To include; Within this unit pupils will quality assure their timber joints and aim to assemble their final product. Additionally, they will have the opportunity to understand and apply surface finishes. Additional they will be introduced to multi directional isometric drawings. Pupils will link a product to promote literacy through the decoration of pyrography.	CAM – Jewellery Designing CAD Drawing To include; Within this unit skills will include using TechSoft 2D to accurately draw, edit and improve computer-based designs using the software accurately and competently.	CAM – Jewellery Casting Edge Treatment To include; Within this unit the practical element will include using a heat press and Pewter Casting a jewellery piece safely. These skills are transferable between technology areas and life skills for their future.	CAD - Sublimation Festival & T-Shirt Design - Planning & Initial Ideas To include; Within this unit pupils will develop a range of hand design skills to design and manufacture a t-shirt and packaging product. These skills include accurately drawing and improving designs using a range of techniques accurately and competently.	CAD/CAM Desk - Tidy To include; Within this unit pupils will develop a range of CAD and hand design skills and manufacture a product using CAM. These skills include using TechSoft 2D to accurately draw, edit and improve computer based designs, whilst doing so using the correct software accurately and competently. These skills are transferable between technology areas and life skills for their future.
Key vocabulary/ concepts/ideas students must master	Steel Rule Hazards Hardwood/Softwood Tenon saw Try square Bench vice	Pyrography Rendering Isometric Clamping Adhesives	CAD CAM CNC Smelting Mould Pewter Modelling Board	Quality Assurance Quality Control	Adapt Accurate Analyse Sublimation Image Transfer	Computer aided design Computer Aided Manufacture Development Template Laser Cutter Line Bender Thermosetting Plastic Thermoforming Plastics Contour
Knowledge revisited	Building on… Reviewing the learning from…	Building on… Reviewing the learning from…	Building on… Reviewing the learning from…	Building on… Reviewing the learning from…	Reviewing knowledge learnt in HT1, focusing on user centred design for packaging and promotion for multi-user design considerations.	Introduction to CAD/CAM skills and safety knowledge for manufacture products using CNC machinery.
CEIAG Links/ Opportunities	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4	Graphic Designer Product Designer CAD Designer Construction & Engineering Gatsby BM: 2/3/4