Year 7 Curriculum Implementation: Design and Technology

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge & Skills	• Health and Safety in the kitchen • Claw and bridge grip • Weighing and measuring • Use of hob, grill and oven • Healthy eating	• Cooking pasta or rice • Selecting and combining ingredients • Controlling temperature when boiling, simmering and frying • Rubbing in method • Fibre and hydration	• ICT use of CAD to draw tangram • Paper and Board theory • Sequential Planning and CAM manufacture of tangram • The importance of packaging- looking at industry • Natural Fibres and Care Labels • Action Plan and Tie Dye Fabric • Yarns and Fabric Construction	• Finishing Processes and Ironing Fabric • Introduction to sewing machines and applying a permanent finishing technique • Temporary techniques, fold, pin and tack a casing seam for drawstring fastening • Permanent stitching of the casing seam permanently and joining the sides. • Add the drawstring fastening	• Marking out and cutting softwood • Natural timber and manufactured board theory • Producing a glue and nail joint • Electricity theory • Design Brief and Product Analysis • Sketching initial design ideas	• Creating a design using CAD software • Introduction to Soldering and Pillar Drill • Practical work- making LED Lamp • Practical work- making LED Lamp • Practical work- making LED Lamp • Practical work- making LED Lamp
Links to prior learning	• KS2 D&T curriculum – pupils may have prepared food • Eat Well Guide is taught at KS2	• Independent safe use of hob and oven in recipes	At KS2 pupils will have... • Followed the design process to make products • Cut materials in a safe and accurate manner • Used CAD • Followed plans to produce whole or part products • Identified the different materials used and why they have been chosen	At KS2 pupils will have... • Carried out simple tests on textiles • Joined and combined materials and components accurately (temporary/permanent) • Learnt that many different materials can be used on a product • Investigated materials for warmth, wear and strength	At KS2 pupils will have learned to • Plan, design, and make products using a range of materials. • Select appropriate tools, materials, and techniques, considering simple constraints (time, resources) • Measure, mark, cut, drill, and join materials safely and accurately • Make simple prototypes to test ideas. • Begin to understand basic electrical systems (simple circuits). • Identify main stages of making	
Assessment	• Breakfast research	• Healthy salad	• Planning	• Product – tie dye bag	• Creating and developing design ideas • LED lamp – product	
Home learning	• Organise ingredients/ money for practical • Washing up • Breakfast in different countries research	• Organise ingredients for practicals	• Paper and Board exam style questions • Technical spellings •	• Health and Safety • Spellings • Industrial Revolution • Technical Language • Sustainability	• Spellings • Client Research • Exam style questions – timber • Pupils produce a step-by-step guide on the fixing techniques they have used	
Cultural Capital and extra-curricular opportunities	• Learn about foods and ingredients from around the world	• Making traditional food from Britain and China	• Learn about the Tangram puzzle, a famous invention from China, and see how it links to design today. • Use CAD and CAM to create your own tangram, like real designers and engineers do. • Explore paper and board, understanding how materials are chosen and used responsibly. • Discover why packaging matters in the real world, including its impact on people, the environment, and business. • Build skills and knowledge that connect schoolwork to real-life jobs, design, and industry	• Awareness of global materials and textile traditions. • Knowledge of practical life skills and professional techniques. • Experience of creative expression and planning. • Understanding sustainability, ethical production, and consumer responsibility. • Exposure to industrial tools and processes, bridging school learning to careers in fashion, textiles, and manufacturing	• Explore materials like timber, boards, and electrical circuits. • Use CAD and practical tools to design and make an LED lamp. • Develop hands-on skills: measuring, cutting, joining, and soldering. • Practice problem-solving, creativity, and improving work. • Connect learning to careers in engineering, design, and technology. • Learn about responsible use of materials and sustainability	
Literacy	• Technical language eg bacteria, sieve • Read and follow a recipe	• Communication within working groups to complete tasks against deadlines	• Ask purposeful questions to gain clarification and further information • Share information, discuss ideas in groups, and contribute to problem-solving discussions • Learn, understand, and spell correctly D&T-specific key words • Use new vocabulary accurately when describing the properties, characteristics, texture, and appearance of materials • Organise facts, ideas, and information in a logical sequence • Use punctuation accurately (e.g. full stops, commas, dashes, brackets, bullet points, colons) to extend and clarify meaning	• Communicate effectively about D&T ideas and processes • Read and interpret technical information • Use and spell subject-specific vocabulary accurately • Write logically sequenced instructions	• Talk about ideas and explain choices for materials, tools, and circuits. • Use technical words • Correctly: timber, board, CAD, soldering, pillar drill, LED • Read and follow instructions from diagrams, CAD, and safety guidelines • Write step-by-step plans and explain how the lamp was made. • Reflect on work: what went well, what was learned, and how to improve	
Numeracy	• Weighing and measuring • Constructing a bar chart	• Following timings • Understanding tsp, tbsp, ml	• Timing stages of production • Measuring • Estimating time • Dimensioning	• Measurement, e.g. marking and using for seam allowances • Use of accurate measurements mm • Timing stages of production	• Measure and mark materials accurately • Use shapes, angles, and layouts in designs • Calculate lengths, spacing, and quantities • Understand basic electricity and circuits • Follow plans and check measurements	
Careers Information, Education, Advice and Guidance (CEIAG)	• Careers in hospitality and catering	• Medicine and dietetics - Learning from doctors' video about fibre and digestion	Learning CAD, CAM, and packaging in D&T helps develop skills used in many jobs: • CAD: designing products, buildings, vehicles, furniture, or jewellery • Packaging: creating safe, attractive, and eco-friendly packaging, and thinking about branding and marketing • CAM: making products using CNC machines, 3D printers, textiles, or even medical device	Making a tie-dye bag helps pupils see how skills in textiles connect to real jobs: • Fashion & Textiles: designing clothes, bags, and costumes • Manufacturing: making products, checking quality, developing fabrics • Creative Arts: textile art, printing, and small business crafts • Sustainability: eco-friendly design, upcycling, fair trade. • Other Jobs: retail, marketing, and teaching with textiles	• Electronics & Electrical: Electronics engineer, electrical technician, PCB assembler, lighting technician, appliance repair • Product Design & Engineering: Product designer, industrial designer • Creative & Technical: prototype technician, 3D CAD designer, maker/entrepreneur • Manufacturing & Future Tech: CAM technician	

Spirituality	• Consider where our food comes from • Think about how food nourishes our body to help us grow and thrive	• Joy of creating food for oneself and others	• Explore materials, CAD, and design challenges, seeing your ideas come to life • Think about how your work makes you feel and what it says about your ideas and values • Consider how your creations affect other people, the community, and the environment • Ask big questions like: How can design make a difference?	• Think about your learning, the effort you put in, and what your skills and choices say about you • Be creative! Work with natural fibres, dyes, and sewing to make your bag, and make thoughtful choices about materials • Consider how your bag could help or serve others, and how your creativity connects to bigger ideas about purpose, responsibility, and caring for the world	• Appreciate the creativity and skill needed to transform raw materials into a functional product • Use imagination and problem-solving to create your LED lamp. • Make thoughtful decisions about materials, tools, and circuits, showing care and responsibility. • Consider how your work connects to helping others, real-world technology, and ethical use of resources • Reflect on the value of creativity and perseverance in your own life
How can parents support the curriculum?	• Ensure home learning tasks are completed • Check when ingredients are needed • Encourage cooking at home	• Ensure home learning tasks are completed • Check when ingredients are needed • Encourage practising dishes at home	• Ensure home learning tasks are completed • Encourage recall of lessons at home • Encourage use of CAD and CAM at home if possible	• Ensure home learning tasks are completed • Encourage recall of lessons at home • If possible provide basic materials: fabric scraps, thread, pins, old t-shirt for tie-dye and make something • Encourage safe use of household tools - iron • Talk about fibre types, care labels, and fabric durability. • Discuss sustainability • Celebrate effort, creativity, of finished work	• Ensure home learning tasks are completed • Encourage recall of lessons at home • Encourage safe use of household tools if possible • Celebrate effort, creativity, of finished work