



Orton CE Primary School DT Skills Progression

Design Technology Curriculum Intent

At Orton CE Primary School, our Design Technology curriculum is coherently planned to progressively develop the knowledge, understanding and skills required by the National Curriculum. We aim to inspire pupils through a broad range of practical and creative experiences, enabling them to design and make innovative products that solve real and relevant problems in a variety of contexts.

The design process is central to our curriculum and runs throughout all units. Pupils engage in an iterative cycle of designing, making and evaluating, developing increasing independence in making decisions about materials, tools and processes. We provide a safe and supportive environment where pupils are encouraged to take risks, test ideas and refine their designs, building resilience and confidence as designers.

Our curriculum is structured within a three-year rolling programme to meet the needs of our mixed-age classes. It ensures broad and balanced coverage of all key DT strands, including mechanisms, structures, textiles, electrical systems, digital design and cooking and nutrition. Concepts are carefully sequenced and revisited, allowing pupils to build on prior learning and deepen their understanding over time.

Pupils develop an understanding of how design and technology has shaped the world by exploring key individuals and significant developments, helping them to recognise the wider impact of design on society, the environment and everyday life. Through this, we aim to inspire pupils to see themselves as future innovators, designers and engineers.

Skills Progression

	KS1 Years 1 & 2	KS2 Years 3 & 4	KS2 Years 5 & 6
Designing	<ul style="list-style-type: none"> • Draw simple designs based on a given idea • Talk about who the product is for and what it should do • Begin to label designs using simple words or diagrams 	<ul style="list-style-type: none"> • Generate ideas based on a design brief • Create labelled diagrams showing key features • Consider purpose, user and function when designing 	<ul style="list-style-type: none"> • Develop detailed, annotated designs • Use research and prior knowledge to inform ideas • Design with increasing consideration of function, aesthetics and user needs • Adapt designs as part of an iterative process

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Making	<ul style="list-style-type: none">• Use basic tools safely (scissors, glue, simple equipment)• Cut, shape and join materials• Assemble simple products with support	<ul style="list-style-type: none">• Measure, mark and cut materials with increasing accuracy• Use a wider range of tools (e.g. simple saws, needles)• Join materials using appropriate techniques (e.g. stitching, fixing axles)	<ul style="list-style-type: none">• Use tools and equipment with precision and independence• Select appropriate materials and techniques• Construct products accurately, applying finishing techniques
Evaluating	<ul style="list-style-type: none">• Talk about what they like and dislike about their product• Identify whether it works as intended	<ul style="list-style-type: none">• Evaluate their product against simple criteria• Suggest improvements based on testing• Compare their work with others	<ul style="list-style-type: none">• Evaluate against a clear design brief and user needs• Identify strengths and weaknesses• Modify designs based on testing and feedback

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Technical Knowledge (By Strand)			
Mechanisms & Mechanical Systems	<ul style="list-style-type: none"> Understand push/pull movement (sliders, levers) Begin to use wheels and axles Learn about simple pneumatics 	<ul style="list-style-type: none"> Understand how movement is transferred (linkages, cams) Begin to use systems such as pulleys 	<ul style="list-style-type: none"> Combine systems (gears, pulleys, motors,) Understand efficiency and control of movement
Structures	<ul style="list-style-type: none"> Build simple freestanding structures Know that wide bases improve stability Join materials to make structures stand 	<ul style="list-style-type: none"> Test and compare strength of structures Understand how to strengthen joins Begin to use reinforcement techniques 	<ul style="list-style-type: none"> Design and build frame structures Use triangulation for strength Apply reinforcement to improve durability
Textiles	<ul style="list-style-type: none"> Cut and join fabric using simple stitches Use templates to create shapes 	<ul style="list-style-type: none"> Use patterns and more accurate joining Combine materials to create functional products 	<ul style="list-style-type: none"> Select and apply a range of stitches Create durable, well-finished products Add decorative detail with precision
Electrical Systems	<ul style="list-style-type: none"> <i>Recognise simple electrical products – Covered in Science curriculum</i> 	<ul style="list-style-type: none"> Construct simple circuits (battery, wires, bulb) Understand that circuits must be complete 	<ul style="list-style-type: none"> Design and use circuits in products Combine electrical systems with mechanical movement
Digital Design & CAD		<ul style="list-style-type: none"> Explore simple digital design tools 	<ul style="list-style-type: none"> Create and modify digital models Design products using CAD Understand how digital designs translate to real products
Cooking & Nutrition	<ul style="list-style-type: none"> Prepare simple foods safely Understand basic food groups Follow simple instructions Basic understanding of food hygiene 	<ul style="list-style-type: none"> Prepare a wider range of ingredients Understand a balanced diet Combine ingredients Increasing understanding of food hygiene 	<ul style="list-style-type: none"> Design and prepare dishes for a purpose Understand cultural and nutritional factors Evaluate finished products Take responsibility for food hygiene

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