

Design and Technology Progression of Skills

	Practical Skills							Designing, Making, Evaluating, Improving	Taking Inspiration
	Food	Materials	Textiles	Electronics	Computing	Construction	Mechanics		
KS1	<ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook healthy ingredients. • Understand where food comes from. <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Cut materials safely using tools provided. • Measure and mark out to the nearest centimetre. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Shape textiles using templates. • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). <p><i>Cross-curricular links with forest school and art and design.</i></p>	<ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage). <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Model designs using software (such as 2simple). <p><i>Cross-curricular links with computing.</i></p>	<ul style="list-style-type: none"> • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Create products using levers, wheels and winding mechanisms. <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. • Begin to evaluate their ideas and products against design criteria. 	<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.
Lower KS2	<ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook healthy ingredients (controlling the temperature of the oven or hob, if cooking). <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Cut materials accurately and safely by selecting appropriate tools. • Measure and mark out to the nearest millimetre. • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). • Select appropriate joining techniques/ resources. <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. <p><i>Cross-curricular links with forest school and art and design.</i></p>	<ul style="list-style-type: none"> • Create series and parallel circuits. <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Control and monitor models using software designed for this purpose. <p><i>Cross-curricular links with computing.</i></p>	<ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears.) <p><i>Check resources prior to planning.</i></p> <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Design with purpose by identifying opportunities to design. • Make products by working efficiently (such as by carefully selecting materials). • Refine work and techniques as work progresses, continually evaluating the product design. • Use software to design and represent product designs. 	<ul style="list-style-type: none"> • Identify some of the great designers (such as Brunel, Mackintosh, Philip Treacy, Marcel Breuer) in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. • Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.
Upper KS2	<ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including healthy seasonal ingredients, methods, cooking times and temperatures. • Understand how a variety of ingredients are grown, reared, caught and processed. • Understand and apply principles of a healthy and varied diet. <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Create objects (such as a cushion) that employ a seam allowance. • Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion). <p><i>Cross-curricular links with forest school and art and design.</i></p>	<ul style="list-style-type: none"> • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips.) <p><i>Check resources prior to planning.</i></p> <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Write code to control and monitor models or products (such as Lego Mindstorms). <p><i>Cross-curricular links with computing.</i></p>	<ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding). <p><i>Cross-curricular links with forest school.</i></p>	<ul style="list-style-type: none"> • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs. <p><i>Cross-curricular links with science.</i></p>	<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). • Make products through stages of prototypes, making continual refinements. • Ensure products have a high quality finish, using art skills where appropriate. • Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. 	<ul style="list-style-type: none"> • Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices. • Create innovative designs that improve upon existing products. • Evaluate the design of products so as to suggest improvements to the user experience.

