

Design and Technology Skills Progression

Design and Technology Skills Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Design, make, evaluate and improve	<ul style="list-style-type: none"> Explore objects to identify how they have been created. Design a product for a purpose. 	<ul style="list-style-type: none"> Explore objects to identify how they have been created. Design a product for a purpose. Refine designs as work progresses 	<ul style="list-style-type: none"> Design with purpose <ul style="list-style-type: none"> 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"> 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"> Combine elements of design from a range of designs giving reasons for choices 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"> Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose. Create innovative designs that improve upon existing products Evaluate the design of products so as to suggest improvements to the user experience

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Food	<ul style="list-style-type: none"> To cut and grate ingredients safely and hygienically Assemble or cook ingredients. 	<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 ingredients. 	<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 ingredients (controlling the temperature of the oven or 	<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 ingredients (controlling the temperature of the oven or 	<ul style="list-style-type: none"> 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 ingredients, methods, cooking times 	<ul style="list-style-type: none"> 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 ingredients, methods, cooking times

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Textiles		<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). 	<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. 		<ul style="list-style-type: none"> ▪ 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 	
Materials, Construction and Mechanics	<ul style="list-style-type: none"> • Uses various construction materials. • Create a product with movable levers • Use Materials to practise gluing and nailing materials to make and strengthen • Cut materials safely using tools provided. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). • Demonstrate a range of joining 	<ul style="list-style-type: none"> ▪ Create products using levers, wheels and winding mechanisms. ▪ Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. ▪ Cut materials safely using tools provided. ▪ Measure and mark out to the nearest centimetre. ▪ Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). 	<ul style="list-style-type: none"> • To make a product using mechanical components • Measure and mark out using units of measure • Use scientific knowledge of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears) 	<ul style="list-style-type: none"> ▪ Cut materials accurately ▪ Measure and mark out using units of measure ▪ Use appropriate cutting techniques ▪ Use appropriate joining technique ▪ Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as winding mechanisms). ▪ Choose suitable techniques to construct products or to repair items. ▪ Make products by working efficiently 	<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). ▪ Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filling and sanding). ▪ Convert rotary motion to linear using cams. ▪ Use innovative combinations of electronics (or computing) and mechanics in product designs. 	<ul style="list-style-type: none"> ▪ Know how to reinforce and strengthen a 3D framework. ▪ 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). ▪ practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and

	techniques (such as gluing, hinges or combining materials to strengthen).					<ul style="list-style-type: none"> Test and evaluate product
Electricals and Electronics				<ul style="list-style-type: none"> create series and parallel circuits 		<ul style="list-style-type: none"> Create circuits using electronics kits that employ a number of components

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Computing	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Control and create models using software designed for this purpose 	<ul style="list-style-type: none"> Control and monitor models using software designed for this purpose. 	<ul style="list-style-type: none"> Make products through stages of prototypes, making continual refinements through digital technology Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Write code to control and monitor models or products. 	<ul style="list-style-type: none"> Write code to control and monitor models or products.

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Communicate technologically	<ul style="list-style-type: none"> Design a product with a clear purpose Refine designs as work progresses. Evaluate their products 	<ul style="list-style-type: none"> Design a product with a clear purpose Refine designs as work progresses. Evaluate their products 	<ul style="list-style-type: none"> Design with purpose by identifying opportunities to design Make products by working efficiently 	<ul style="list-style-type: none"> Design with purpose by identifying opportunities to design. Make products by working efficiently 	<ul style="list-style-type: none"> Make products through stages of prototypes, making continual refinements through digital technology Use prototypes, cross- 	<ul style="list-style-type: none"> Plan the order of their work, choosing appropriate techniques Identify the strengths and areas for development in



	<p>against design criteria</p> <ul style="list-style-type: none">▪ Suggest improvements and evaluate designs	<p>against design criteria</p>	<ul style="list-style-type: none">▪ Refine work and techniques as work progresses, continually evaluating the product design.▪ Improve upon existing designs giving reasons for choices	<ul style="list-style-type: none">▪ Refine work and techniques as work progresses, continually evaluating the product design.	<p>sectional diagrams and computer aided designs to represent designs.</p> <ul style="list-style-type: none">▪ Write code to control and monitor models or products.	<p>their ideas and products</p> <ul style="list-style-type: none">▪ Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.▪ Design with the user in mind motivated by the service a product will offer▪ Ensure products have a high-quality finish, using art skills where appropriate▪ Use prototypes, cross sectional diagrams and computer aided design to represent designs
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