



Curriculum Overview for Design Technology

What we teach, when we teach it

KS1	Structures (Construction)	Mechanisms	Food
Year 1	Solid Structures	Slider Mechanisms	Portable Snacks
Year 2	Solid Structures	Slider Mechanisms	Portable Snacks

Lower KS2	Structures	Mechanisms	Food
Year 3	Frame Structures	Linked Levers	Veg Soup
Year 4	Frame Structures	Linked Levers	Veg Soup
Upper KS2	Structures	Mechanisms	Food
Year 5	Arch Structures	Pulleys and Gears	Food Throughout the Year
Year 6	Arch Structures	Pulleys and Gears	Food Throughout the Year

Progression and Skills:

ELG - EYFS Expressive Arts and Design Exploring and using media and materials	Milestone 1 - Year 1 & 2 By the end of Year 1 pupils should have a basic grasp of this content. By the end of Year 2 pupils should have an advancing understanding of this content, whilst some will have a deep understanding.	Milestone 2 - Year 3 & 4 By the end of Year 3 pupils should have a basic grasp of this content. By the end of Year 4 pupils should have an advancing understanding of this content, whilst some will have a deep understanding.	Milestone 3 - Year 5 & 6 By the end of Year 5 pupils should have a basic grasp of this content. By the end of Year 6 pupils should have an advancing understanding of this content, whilst some will have a deep understanding.
<ul style="list-style-type: none"> Safely use and explore a variety of materials, tools 	Master practical skills	Master practical skills	Master practical skills
	Food • Cut, peel or grate ingredients safely	Food • Prepare ingredients hygienically	Food • Understand the importance of correct

<p>and techniques, experimenting with colour, design, texture, form and function.</p> <ul style="list-style-type: none"> • Manipulate materials to achieve a planned effect. • Construct with a purpose in mind, using a variety of resources. • Use simple tools and techniques competently and appropriately. • Select appropriate resources and adapt work where necessary. • Select tools and techniques needed to shape, assemble and join materials they are using. 	<p>and hygienically.</p> <ul style="list-style-type: none"> • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. <p><u>Materials</u></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><u>Textiles</u></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><u>Electricals and Electronics</u></p> <ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage) <p><u>Construction</u></p> <p>Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.</p> <p><u>Mechanics</u></p> <ul style="list-style-type: none"> • Create products using levers, wheels and winding mechanisms. 	<p>using appropriate utensils.</p> <ul style="list-style-type: none"> • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking) <p><u>Materials</u></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. <p><u>Textiles</u></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><u>Electricals and Electronics</u></p> <ul style="list-style-type: none"> • Create series and parallel circuits <p><u>Construction</u></p> <ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. <p><u>Mechanics</u></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, 	<p>storage and handling of ingredients (using knowledge of micro-organisms).</p> <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 and temperatures <p><u>Materials</u></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><u>Textiles</u></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><u>Electricals and Electronics</u></p> <ul style="list-style-type: none"> • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and
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		pulleys and gears).	chips). <u>Construction</u> <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding) <u>Mechanics</u> <ul style="list-style-type: none"> • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product design.
	<u>Design, make, evaluate and improve</u> <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 	<u>Design, make, evaluate and improve</u> <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. 	<u>Design, make, evaluate and improve</u> <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.
	<u>Take inspiration from design throughout history</u> <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. 	<u>Take inspiration from design throughout history</u> <ul style="list-style-type: none"> • Identify some of the great designers 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 	<u>Take inspiration from design throughout history</u> <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

		how they work	to suggest improvements to the user experience.
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