

Design Technology

Overview and Steps in Learning

Whole school long term overview

Year Group	A1	A2	Sp1	Sp2	Su1	Su2
Lower KS2 Block A	-	Paper Circuits – Christmas Card Electronics	-	Using Textiles (linked to the story quilt) Textiles	Making Vegetable Soup Food and nutrition	-
Lower KS2 Block B	-	Levers card Mechanics	Bridges & Structures (CAD) Construction/ computing	-	-	Food dips Food and nutrition
Upper KS2 Block A	-	Hanukkah - Jewish Apple Cake Food and nutrition	Doublet Textiles	Pulleys Mechanics	-	-
Upper KS2 Block B	-	Space Buggy Mechanisms- Electrical	Anderson Shelter Construction	Iftar Food and nutrition	A1 unit	-

Steps in learning- skills and progression

Bakewell Methodist Steps in Learning– Art and Design			
Lower KS2 A	Lower KS2 B	Upper KS2 A	Upper KS2 B
Master practical skills.			
Developing the skills needed to make high quality products.			
Food and nutrition			
<ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. 		<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. 	

<ul style="list-style-type: none"> • Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). 	<ul style="list-style-type: none"> • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including ingredients, methods, cooking times and temperatures.
Materials	
<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. 	<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).
Textiles	
<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"> • 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).
Electricals and electronics	
<ul style="list-style-type: none"> • Create products with series and parallel circuits. 	<ul style="list-style-type: none"> • Create products using electronics kits that employ a number of components (such as LEDs and resistors).
Computing	
<ul style="list-style-type: none"> • Control and monitor models using apps designed for this purpose. 	<ul style="list-style-type: none"> • Write code to control and monitor models or products.
Construction	
<ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. 	<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).
Mechanics	

<ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as linked levers or pneumatics). 	<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>Take inspiration from design. Appreciating the design process that has influenced the products we use in everyday life.</p>	
<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 how they work. 	<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.
<p>Design, make, evaluate and improve. Develop the process of design thinking and seeing design as a process.</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"> • 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.



