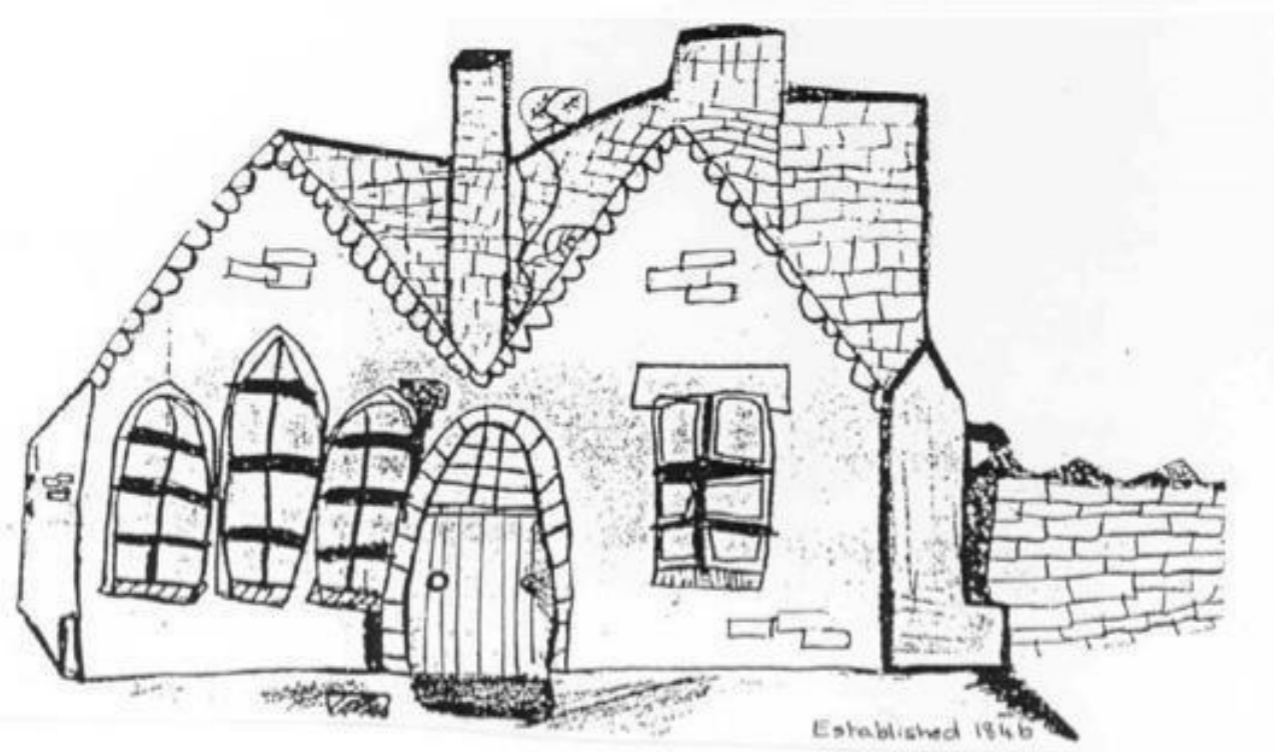




Design & Technology Progression and Skills Map



Our curriculum is driven by our Christian Vision and values, the culture and diversity of our local, National and global community.

'Fullness of life for all, through working together with the love of Christ.'

At Quinton Church Primary School, we believe that everyone should have life in all its fullness. Therefore, our aim is for everyone to be part of our **Christian community** where everyone is happy, safe and supported, feels **loved** and demonstrates kindness; understands **justice** and shows fairness to all; and receives high quality education and is empowered to live life to the full (John 10:10).

We are not only inspired by John 10:10, but by Micah 6:8, which shows us how to live life in all its fullness.

'The LORD has told us what is good. What he requires of us is this: to do what is just, to show constant love, and to live in humble fellowship with our God.'

Be kind, be fair, be thankful.

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PROGRESSION AND SKILLS MAP – DESIGN & TECHNOLOGY at Quinton Church Primary School

	EFYS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
National Curriculum	<p>UNDERSTANDING THE WORLD ELG: The Natural World</p> <ul style="list-style-type: none"> - Explore the natural world around them, making observations and drawing pictures of animals and plants. <p>EXPRESSIVE ARTS & DESIGN ELG: Creating with Materials</p> <ul style="list-style-type: none"> - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. - Share their creations, explaining the process they have used. - Make use of props and materials when role playing characters in narratives and stories. <p>PERSONAL, EMOTIONAL & SOCIAL DEVELOPMENT ELG: Managing Self</p> <ul style="list-style-type: none"> - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 	<p>Pupils must be taught to:</p> <p>Design</p> <ul style="list-style-type: none"> - purposeful, functional, appealing products for themselves and other users based on design criteria. -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. <p>Make</p> <ul style="list-style-type: none"> -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. <p>Evaluate</p> <ul style="list-style-type: none"> -Explore and evaluate a range of existing products. -Evaluate their ideas and products against design criteria. <p>Technical knowledge</p> <ul style="list-style-type: none"> -Build structures, exploring how they can be made stronger, stiffer and more stable. -Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> -Use the basic principles of a healthy and varied diet to prepare dishes. -Understand where food comes from. 	<p>When designing and making, pupils should be taught to:</p> <p>Design</p> <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, aimed at particular individuals or groups. - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <p>Make</p> <ul style="list-style-type: none"> -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. - Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. <p>Evaluate</p> <ul style="list-style-type: none"> - Investigate and analyse a range of existing products. - Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. - Understand how key events and individuals in design and technology have helped shape the world. <p>Technical knowledge</p> <ul style="list-style-type: none"> - Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. - Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. - Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. - Apply their understanding of computing to program, monitor and control their products. <p>Cooking and nutrition</p> <ul style="list-style-type: none"> - Understand and apply the principles of a healthy and varied diet. - Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. - Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. 				
To take inspiration from design throughout history.	<p>UNDERSTANDING THE WORLD ELG -People & Communities</p> <ul style="list-style-type: none"> - Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. <p>ELG – Past & Present</p> <ul style="list-style-type: none"> - Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class 	<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the design • Suggest improvements to existing designs • Explore how products have been created 	<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. 			
To design, make, evaluate and improve:	<p>ELG: Managing Self</p> <ul style="list-style-type: none"> - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices 	<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. 	<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. • 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. 			

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Materials	<p>UNDERSTANDING THE WORLD ELG: The Natural World</p> <ul style="list-style-type: none"> - Explore the natural world around them, making observations and drawing pictures of animals and plants. <p>EXPRESSIVE ARTS & DESIGN ELG: Creating with Materials</p> <ul style="list-style-type: none"> - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. - Share their creations, explaining the process they have used. - Make use of props and materials when role playing characters in narratives and stories. 	<p>MATERIALS Practical skills</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>MATERIALS Practical skills</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>MATERIALS Practical skills</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 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 then would be used to cut paper). 	
Construction	<p>ELG: Fine Motor Skills</p> <ul style="list-style-type: none"> - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all case. - Use a range of small tools, including scissors, paint brushes and cutlery. 	<p>CONSTRUCTION Practical skills</p> <ul style="list-style-type: none"> • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. 		<p>CONSTRUCTION Practical skills</p> <ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. 		<p>CONSTRUCTION Practical skills</p> <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) 	
Textiles	<p>ELG: Fine Motor Skills</p> <ul style="list-style-type: none"> - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all case. - Use a range of small tools, including scissors, paint brushes and cutlery. 		<p>TEXTILES Practical skills</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>TEXTILES Practical skills</p> <ul style="list-style-type: none"> • Understand the need for a seam allowance • Join textiles with appropriate techniques to decorate textiles. • Select the most appropriate techniques to decorate textiles. 		<p>TEXTILES Practical skills</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) 	
Mechanics	<p>ELG: Fine Motor Skills</p> <ul style="list-style-type: none"> - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all case. - Use a range of small tools, including scissors, paint brushes and cutlery. 		<p>MECHANICS Practical skills</p> <ul style="list-style-type: none"> • Create products using, levers, wheels and winding mechanisms. 		<p>MECHANICS Practical skills</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>MECHANICS Practical skills</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.
Electrical and Electronics			<p>ELECTRONICS Practical skills</p> <ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage) 		<p>ELECTRONICS Practical skills</p> <ul style="list-style-type: none"> • Create series and parallel circuits. 		<p>ELECTRONICS Practical skills</p> <ul style="list-style-type: none"> • Create circuits using electronic kits that employ a number of components (such as LEDs, resistors, transistors and chips).

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Food	<p>PERSONAL, EMOTIONAL & SOCIAL DEVELOPMENT ELG: Managing Self</p> <ul style="list-style-type: none"> - Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 	<p>FOOD TECHNOLOGY Practical skills</p> <ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Cut materials safely using tools provided. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. 			<p>FOOD TECHNOLOGY Practical skills</p> <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 hob, if cooking). 		<p>FOOD TECHNOLOGY Practical skills</p> <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 ingredients, methods, cooking times and temperatures.
Computing			<p>COMPUTING</p> <ul style="list-style-type: none"> • Model designs using software 		<p>COMPUTING</p> <ul style="list-style-type: none"> • Control and monitor models using software design for this purpose. 		<p>COMPUTING</p> <ul style="list-style-type: none"> • Write code to control and monitor models or products.

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