



Manland Primary School-Long Term Curriculum Plan

Overview of Skills – Design and Technology



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	<p>Use tools and understand their purposes Construct using a variety of resources Develop preferences of forms of expression Use a range of tools and materials to create a planned effect Use tools with increasing control <i>Use rollers and cutters with increasing control</i> Discuss changes in materials</p>		<p>Talk about themselves and what makes them the same and different to others Look closely at similarities, differences, patterns and change Talk about the features of their environment Talk about the features of their environment and how this is different to other environments Talk about change Make observations of animals and plants Know the properties of some materials and what they could be used for Talk about scientific concepts e.g. floating, sinking, experimentation</p>		<p>Talk about scientific concepts e.g. floating, sinking, experimentation Know that the environment can be influenced by human activity Talk about things people can do to maintain the area they live in Make observations of animals and plants</p>	
Year 1	<p>Cut, peel or grate ingredients safely and hygienically. Assemble or cook ingredients Measure or weigh using measuring cups or electronic scales. Explore objects and designs to identify likes and dislikes of the designs. Design products that have a clear purpose and an intended user. Make products, refining the design as work progresses. Create products using levers, refining the design as work progresses. Suggest improvement to existing designs. Cut materials safely using tools provided. Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).</p>		<p>Design products that have a clear purpose and an intended user. Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. Make products, refining the design as work progresses. Cut, peel or grate ingredients safely and hygienically. Assemble or cook ingredients Measure or weigh using measuring cups or electronic scales.</p>		<p>Cut, peel or grate ingredients safely and hygienically. Assemble or cook ingredients Measure or weigh using measuring cups or electronic scales. Explore objects and designs to identify likes and dislikes of the designs. Design products that have a clear purpose and an intended user. Make products, refining the design as work progresses. 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 techniques (such as gluing, hinges or combining materials to strengthen).</p>	
Year 2	<p>Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients. Textiles and Sewing Shape textiles using a templates. Join textiles using a running stitch. Colour and decorate textiles using a number of techniques (e.g. adding sequins and buttons) To design, make, evaluate and improve Develop products that have a clear purpose and intended user.</p>		<p>Cooking and Nutrition Cut, peel or grate ingredients safely and hygienically. Measure or weigh using electric scales. Assemble or cook ingredients. To design, make, evaluate and improve Develop products that have a clear purpose and intended user. Make products, refining the design as work progresses.</p> <p>To take inspiration from design throughout history Explore objects and designs to identify likes and dislikes of the designs.</p>		<p>Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients. Wheeled and winding mechanism. Cut materials safely. Measure and mark out to the nearest centimetre. Create products using wheels and winding mechanisms. Use materials to practise sawing. Develop products that have a clear purpose and intended user.</p>	



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	<p>Make products, refining the design as work progresses. To take inspiration from design throughout history Suggest improvements to existing designs. Explore how products have been created. Explore objects and designs to identify likes and dislikes of the designs. Use software to design. Model designs using software.</p>	<p>Suggest improvements to existing designs. Explore how products have been created.</p>	<p>Make products, refining the design as work progresses. Suggest improvements to existing designs. Explore how products have been created.</p>
Year 3	<p>Prepare ingredients hygienically using appropriate utensils. Follow a recipe. Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking). Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles. Improve upon existing designs, giving reasons for choices. Use software to design and represent product designs. Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design.</p>	<p>Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques.</p> <p>Prepare ingredients hygienically using appropriate utensils. Assemble or cook ingredients (controlling the temperature of the oven or <u>hob</u>, if cooking).</p>	<p>Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Select appropriate joining techniques. Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product Make products by working efficiently (such as by carefully selecting materials). Refine work and techniques as work progresses, continually evaluating the product design. Choose suitable techniques to construct products or to repair items. (winding) Prepare ingredients hygienically using appropriate utensils. Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking)</p>
Year 4	<p>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. Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.</p> <p>Anglo-Saxon pottage making linked to history topic. Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately Assemble or cook ingredients (controlling the temperature of the oven Follow a recipe</p>	<p>Control and monitor models using software designed for this purpose. Disassemble products to understand how they work.</p> <p>Mayan chocolate Prepare ingredients hygienically using appropriate utensils. Cut materials accurately and safely by selecting appropriate tools.</p>	<p>Understand the need for a seam allowance. Join textiles with appropriate stitching. Select the most appropriate techniques to decorate textiles. Cut materials accurately and safely by selecting appropriate tools. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).</p> <p>Tudor biscuits Prepare ingredients hygienically using appropriate utensils.</p>
Year 5	<p>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. Demonstrate a range of baking and cooking techniques.</p>	<p>Understand the importance of correct storage and handling of ingredients (using knowledge of microorganisms).</p>	<p>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p> <p>Create objects (such as a cushion) that employ a seam allowance.</p>



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	<p>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>	<p>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). Construction: Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding). Mechanics Convert rotary motion to linear using cams. Use innovative combinations of electronics (or computing) and mechanics in product designs. 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 this.</p>	<p>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) Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p>
<p>Year 6</p>	<p>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.</p>	<p>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) Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p>	<p>Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). Write code to control and monitor models or products. 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) Demonstrate a range of baking and cooking techniques.</p>