



St Mary's Church of England Primary School

Design and Technology Curriculum

In Design and Technology, pupils will solve imaginary, real and relevant problems within a variety of contexts considering their own and others' needs, wants and values such as making a sandwich in Year 1, creating an alarmed case for the Crown Jewels in Year 4 and making slippers for themselves in Year 5. As pupils progress through school they will build knowledge, understanding and skills in order to design, make and evaluate products for a wide range of users. Pupils will learn to become resourceful, innovative and enterprising and be able to participate successfully in an increasingly technological world with using ICT and computing alongside the designing and making.

<p>Lighthouse Keepers Lunch <u>Can you design and make a sandwich for the Lighthouse Keeper?</u></p> <p>Wolf Proof <u>Can you design and make a trap to catch the big, bad wolf?</u></p>	<p><u>Design</u> Draw on their own experience to help generate ideas Suggest ideas and explain what they are going to do Identify a target group for what they intend to design and make Model their ideas in card and paper Develop their design ideas applying findings from their earlier research</p> <p><u>Make</u> Make their design using appropriate techniques With help measure, mark out, cut and shape a range of materials Use tools e.g. scissors and a hole punch safely Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape Select and use appropriate fruit and vegetables, processes and tools Use basic food handling, hygienic practices and personal hygiene Use simple finishing techniques to improve the appearance of their product</p> <p><u>Evaluate</u> Evaluate their product by discussing how well it works in relation to the purpose Evaluate their products as they are developed, identifying strengths and possible changes they might make Evaluate their product by asking questions about what they have made and how they have gone about it</p>
<p>National Curriculum</p> <p>design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing and templates select from and use a range of tools and equipment to perform practical tasks select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics build structures, exploring how they can be made stronger, stiffer and more stable use the basic principles of a healthy and varied diet to prepare dishes</p>	<p><u>Vocabulary</u></p> <p>Idea, make, aim, develop, use, wood, wool, plastic, equipment, tools, saw, cut, join, material, glue, scissors, fruit, vegetable, healthy, size, shape, chopping, safety, hygiene, labelled, prepare, stable</p>

<p>Kings, Queens and Castles</p> <p><u>Can you design and make a new castle for a king or queen?</u></p> <p>Farm to Fork</p> <p><u>Can you grow your own food to make a meal?</u></p>	<p><u>Design</u> Generate ideas by drawing on their own and other people's experiences Develop their design ideas through discussion, observation, drawing and modelling Identify a purpose for what they intend to design and make Identify simple design criteria Make simple drawings and label parts</p> <p><u>Make</u> Begin to select tools and materials; use vocab' to name and describe them Measure, cut and score with some accuracy Use hand tools safely and appropriately Assemble, join and combine materials in order to make a product Follow safe procedures for food safety and hygiene Choose and use appropriate finishing techniques</p> <p><u>Evaluate</u> Evaluate against their design criteria Evaluate their products as they are developed, identifying strengths and possible changes they might make Talk about their ideas, saying what they like and dislike about them</p>
<p>National Curriculum</p> <p>design 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 select from and use a range of tools and equipment to perform practical tasks select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics explore and evaluate a range of existing products evaluate their ideas and products against design criteria 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>	<p><u>Vocabulary</u></p> <p>Shape, construct, customer, purpose, template, appearance, transparent, opaque, absorbent, wheel, decoration, lever, survey, finish, attach, axle, glue gun, joint, ruler, review, improve, portion, look, taste, texture, smell, colour, ingredients, techniques, peeling, grating, measure, weigh, non-standard, farmed, caught, grown, standard measure, cook, recipe, consistency, heat source, sweet, savoury, slider, structure, stronger, stiffer, reinforce, mechanism</p>

<p>use the basic principles of a healthy and varied diet to prepare dishes understand where food comes from.</p>	
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<p>Stone Age, Bronze Age, Iron Age</p> <p><u>Can you design and make a tool from a period in history?</u></p> <p>Travelling Around Europe</p> <p><u>Can you design and make European inspired food?</u></p>	<p><u>Design</u> Generate ideas for an item, considering its purpose and the user/s Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting Explore, develop and communicate design proposals by modelling ideas Make drawings with labels when designing</p> <p><u>Make</u> Select tools and techniques for making their product Measure, mark out, cut, score and assemble components with more accuracy Work safely and accurately with a range of simple tools Think about their ideas as they make progress and be willing change things if this helps them improve their work Demonstrate hygienic food preparation and storage</p> <p><u>Evaluate</u> Evaluate their product against original design criteria e.g. how well it meets its intended purpose Disassemble and evaluate familiar products</p>
<p>National Curriculum</p> <p>Use research to inform the design of functional and appealing products that are fit for purpose. Generate and communicate their ideas through discussion and annotated sketches select from and use a wider range of tools and equipment to perform practical tasks 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 investigate and analyse a range of existing products 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</p>	<p><u>Vocabulary</u></p> <p>Functional, appealing, construction, criteria, usability, evaluate, material, research, safety, malleable, glue, chisel, hammer, evaluate, savoury, garnish, diet, variety, carbohydrates, protein, dairy, fat, vitamin</p>

<p>Gangsta Granny</p> <p><u>Can you create an alarmed case for the crown jewels?</u></p> <p><u>Can you create a moving storybook for younger children?</u></p> 	<p><u>Design</u> Generate ideas considering the purposes for which they are designing Make labelled drawings from different views showing specific features Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail Evaluate products and identify criteria that can be used for their own designs</p> <p><u>Make</u> Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques Join and combine materials and components accurately in temporary and permanent ways Measure, tape or pin, cut and join fabric with some accuracy Use simple graphical communication techniques Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT</p> <p><u>Evaluate</u> Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests</p>
<p>National Curriculum</p> <p>Use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular groups Generate, develop, model and communicate their ideas through discussion, cross-sectional and exploded diagrams, prototypes and pattern pieces. select from and use a wider range of tools and equipment to perform practical tasks accurately select from and use a wider range of materials and components and textiles according to their functional properties and aesthetic qualities evaluate their ideas and products against their own design criteria</p>	<p><u>Vocabulary</u></p> <p>Client, purpose, innovate, process, product, prototype, quality, suitable, consumer, circuit, lever, linkage, assemble, dowel, series circuit</p>

understand and use mechanical systems in their products
understand and use electrical systems in their products

Survival

Can you design and make equipment to aid survival?

Can you make a pair of slippers for yourself?

Design

Generate ideas through brainstorming and identify a purpose for their product

Draw up a specification for their design

Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail

Use results of investigations, information sources, including ICT when developing design ideas

Make

Select appropriate materials, tools and techniques

Measure and mark out accurately

Cut, shape and join **fabric** to make a simple **garment**.

Use basic **sewing** techniques

Use skills in using different tools and equipment safely and accurately

Measure, tape or pin, cut and join fabric with some accuracy

Sew using a range of different stitches, weave and knit

Pin, sew and stitch materials together create a product

Cut and join with accuracy to ensure a good-quality finish to the product

Evaluate

Evaluate a product against the original design specification

	Evaluate it personally and seek evaluation from others
<p>National Curriculum</p> <p>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals.</p> <p>Generate, develop, model and communicate their ideas through discussion, cross-sectional and exploded diagrams, prototypes and pattern pieces.</p> <p>select from and use a wider range of tools and equipment to perform practical tasks accurately</p> <p>select from and use a wider range of materials and components and textiles according to their functional properties and aesthetic qualities</p> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>apply their understanding of computing to program, monitor and control their products.</p>	<p><u>Vocabulary</u></p> <p>Aesthetic, ergonomic, brief, manufacture, cross-section, exploded-drawing, questionnaire, market research, adhesive, illustrate</p>

WW2	<u>Design</u>
<u>Can you design and make an air-raid</u>	<p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p>

<p><u>shelter?</u></p> <p>The Great American Road Trip</p> <p><u>Can you make an American inspired feast?</u></p>	<p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and technique</p> <p><u>Make</u></p> <p>Select appropriate tools, materials, components and techniques</p> <p>Assemble components make working models</p> <p>Use tools safely and accurately</p> <p>Construct products using permanent joining techniques</p> <p>Make modifications as they go along</p> <p>Achieve a quality product</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens</p> <p><u>Evaluate</u></p> <p>Evaluate their products identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>
<p>National Curriculum</p> <p>use research and develop design criteria to inform the design of functional and appealing products that are fit for purpose, aimed at particular individuals or groups</p> <p>Generate, develop, model and communicate their ideas through discussion, cross-sectional and exploded diagrams, prototypes and pattern pieces.</p> <p>select from and use a wider range of tools and equipment to perform practical tasks accurately</p> <p>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> <p>investigate and analyse a range of existing products</p> <p>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>understand how key events and individuals in design and technology have helped shape the world</p> <p>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p>	<p><u>Vocabulary</u></p> <p>Dimension, modification, modify, specification, dismantle, enlarged, proportion, carpentry, timber, grain, screw, nails, bench-hook, glass paper, smoothing pane, knot, strengthen, right-angle, accompaniments, calories, energy, mineral, vegetation, vegan, pescatarian, allergies, intolerances, free-range, seasonality, analyse, critical</p>

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.