

## Design technology Year 4

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<p><b>Design and Technology knowledge</b></p> <p>*Through a variety of creative and practical activities pupils should be taught the knowledge, understanding and skills to engage in an iterative process of designing and making.</p> <p>*Pupils taught how to cook and apply the principles of nutrition and healthy eating and varied diet.</p> <p>*Prepare and cook and cook a variety of predominantly savoury dishes uses a range of cooking techniques.</p> <p>*Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.</p>		<p>Robin Hood's Bay - Star fish sewing</p> <p>Christmas spicy biscuits</p> <p>Robin Hood's Bay – Light up electric light house. Linked to science</p>	<p>Invaders and Settlers:</p> <p>Romans, Anglo Saxons and Vikings</p> <p>Wooden Roman Siege Machines</p>			<p>Allotment – Potato Salad Packaging</p> <p>Potato Salad</p>
<p>Health and safety</p>		<p>*Discussion about safety with needles and scissors</p> <p>*How to use a needle (threading, fastening, starting</p>	<p>*Discussion about safety with vice, junior hacksaw – teacher modeling best practice</p> <p>*Discussion about</p>			<p>*Discussion and modeling on how to handle scissors for cutting and scoring safely</p> <p>*Discussion about</p>

		<p>and finishing off)</p> <p>*Discussion about washing hands/ coughing/ sneezing/ fingers in mouth etc.</p> <p>Discussion about safety with electrics</p>	<p>the difference between glues and which glues are best at sticking different materials</p>			<p>washing hands/ coughing/ sneezing/ fingers in mouth etc.</p> <p>*Discussion and modeling on how to use knives correctly</p>
<b>Design and Technology skills</b>						
Design		<p>*Use research and develop design criteria to inform the design of an innovative, functional and appealing product that is fit for purpose, aimed at a particular group/individual.</p> <p>*Design, develop and model ideas for a hanging Starfish cushion (felt) to sew. Communicate their ideas through discussion, annotated sketches and diagrams.</p> <p>*Design and plan how to decorate the finished product – spicy biscuit.</p> <p>*Use research to generate a design</p>	<p>*Use research to generate a design for working model of a Roman siege machine, based on their experience of working with materials and components.</p> <p>*Generate, develop, model and communicate their ideas through discussion annotated 3D drawings, cross sectional diagrams and written descriptions</p>			<p>*Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of a product fit for purpose (packaging for potato salad)</p> <p>*Consider unique selling points and target audience)</p> <p>*Use annotated sketches to communicate ideas. Use models, pictures (3D drawings) and words to describe their designs</p>

		<p>for working lighthouse, based on their experience of working with materials and components.</p> <p>*Generate, develop, model and communicate their ideas through discussion annotated 3D drawings, cross sectional diagrams and written descriptions</p>				
<p>Make - Use of tools and equipment</p>		<p>*Select from and use a range of tools and equipment to perform a practical task.</p> <p>*Select and use a wide range of materials according to their characteristics</p> <p>*Use template, needle, thread and felt to sew using running, cross and pearl stitches and appliqué</p> <p>*Start and finish off the sewing independently</p> <p>*Pay attention to quality of finish</p> <p>*Know how to join two pieces of fabric</p>	<p>*Order the main stages of making</p> <p>*Produce a model from a design</p> <p>*Measure and marking with a ruler to a 1mm accuracy</p> <p>*Use a junior hacksaw and vice for cutting square dowel</p> <p>*Use strengthening techniques in their structure</p> <p>*Make a moving joint using appropriate joining materials</p>			<p>*Order the main stages of making</p> <p>*Select the appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy</p> <p>*Explain their choice of materials according to functional properties and aesthetic qualities</p> <p>*Select materials and components according to their function and properties.</p> <p>*Make a net of a 3D shape using tools and equipment with some accuracy to</p>

		<p>together.</p> <ul style="list-style-type: none"><li>*Understand the need for patterns and seam</li><li>*Make spicy Christmas biscuits (instructions link to English)</li><li>*Using measuring spoons and cups</li><li>*Using balance scales</li><li>*Sieving flour</li><li>*Adding liquid to flour</li><li>*Scraping out a bowl with a spatula</li><li>*Cracking an egg</li><li>*Folding flour into a creamed mixture</li><li>*Shaping and rolling dough</li><li>*Using a cutter to make biscuit shapes</li><li>*Decorating using icing</li></ul> <p>*Order the main stages of making.</p> <p>*Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their lighthouse.</p> <p>*Explain their choice of materials</p>				<p>make the box</p> <ul style="list-style-type: none"><li>*Make potato salad using potatoes and peas grown in school allotment</li><li>*Claw knife technique for soft and hard foods</li><li>*Peeling hard vegetables</li><li>*Beating ingredients together</li><li>*Garnishing and decorating</li></ul>
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		<p>and components according to their functional and aesthetic qualities.</p> <p>*Select from and use materials, components, construction and electrical components according to their function and properties.</p>				
Evaluate		<p><b>*Evaluate their ideas and product against their own design criteria and consider the views of others to improve their work.</b></p> <p>*Investigate and evaluate a range of products including materials, components and techniques that are used.</p> <p>*Test and evaluate their lighthouse against their own design criteria and identify the strengths and weaknesses in their work.</p> <p>*Evaluate their ideas and lighthouse</p>	<p>*Identify where evaluation of the design and make process and their product has led to improvements.</p> <p>* Understand how key events and individuals in design and technology have shaped the world.</p>			<p>*Investigate and evaluate a range of products including materials and techniques that are used.</p> <p>*Test and evaluate their packaging against their own design criteria and identify the strengths and weaknesses in their work.</p> <p>*Evaluate their ideas and packaging against their own design criteria and identify strengths and area for improvement in their work.</p> <p><b>*Taste testing salad</b></p>

		against their own design criteria and identify strengths and area for improvement in their work.				- group discussion
Build structures						*Develop and use knowledge of how to construct strong, stiff shell structures. *Develop and use knowledge of nets of cubes and cuboids.
Explore and use mechanisms			*Understand and use lever and linkage mechanisms *Distinguish between fixed and loose pivots			
Explore electrical systems in their products		*Understand and use electrical systems in their lighthouse linked to science coverage. *Know how to use technical vocabulary relevant to the project.				
Use computing with product						
Subject specific vocabulary		Template, design, thread, felt, needle, scissors, fabric, sew, cut, straight, stitch,	Mechanism, lever, linkage, pivot, slot, guide system, fixed, loose, dowel,			Design, 3D, model, accurate, scoring, cutting, folding, sticking, measure,

		<p>decorate, felt, sequins, embellishments, running stitch, cross stitch, pearl stitch, quality, evaluate</p> <p>Hygiene, measure, mix, cream butter and sugar, scrape, spatula, folding, bake</p> <p>Series circuit, fault, connection, toggle switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control</p>	<p>hacksaw, vice, annotated drawing, strengthen, adjust, test</p>			<p>straight, target audience, design brief, design criteria, prototype, user, purpose, appealing, sketch</p> <p>Hygiene, healthy, claw knife, peel, beat, garnish, decorate, ingredients, seasonal, harvested, allotment, frozen, processed, tinned, fresh, healthy/varied diet</p>
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