

## Design and Technology Subject Overview



Reception	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6
	Marvellous Me	Sensational Celebrations	Frozen Kingdom	Spring has sprung!	Minibeasts & Metamorphosis	A Pirate's Life for Me!
	Elmer colours, textures, materials. Foraged art – stick pictures Autumn art and crafts.	Christmas craft, cards and decorations.	Valentine's cards Arctic and Antarctic artwork	Mother's Day cards Easter cards Easter craft Nature/plant crafts	Junk model animals Mini-beast craft Box modelling Different techniques for joining materials. Encourage children to notice features in the natural world	Making pirate props and crafts Story characters. Exploring media and materials Creating collaboratively, sharing ideas, resources and skills
Skills	<b>Design</b>  Begin to use the language of designing and making, e.g. join, build and shape. Learning about planning and adapting initial ideas to make them better.	<b>Make</b>  To learn to construct with a purpose in mind. Selects tools and techniques needed to shape, assemble and join materials.	<b>Evaluate</b>  Begin to talk about changes made during the making process, e.g. making a decision to use a different joining method.	<b>Technical</b>  To learn how to use a range of tools, e.g. scissors, hole punch, stapler, woodworking tools, rolling pins, pastry cutters. Learn how everyday objects work by dismantling things.	<b>Nutrition</b>  To begin to understand some of the tools, techniques and processes involved in food preparation. Children have basic hygiene awareness.	

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		Project 1	Project 2	Project 3	Project 4	Project 5
Year 1/2	Cycle 1	Healthy Humans <b>Nutrition – Fruit Smoothie</b> <ul style="list-style-type: none"> <li>• Designing appealing products for a user; investigating fruit and vegetables and generating ideas; communicating through talk and drawings.</li> <li>• Selecting a range of fruits and vegetables; using simple utensils and equipment.</li> <li>• Tasting and evaluating user’s preference; evaluating ideas and finished products against original criteria.</li> <li>• Understand where ingredients come from and the basis of a healthy and varied diet.</li> </ul>	Let’s Celebrate	Wonderful Weather <b>Mechanisms</b> Moving Pictures <ul style="list-style-type: none"> <li>• Generating, modelling and communicating ideas.</li> <li>• Planning making, selecting tools and using finishing techniques.</li> <li>• Exploring books and products; evaluating own product against original criteria.</li> <li>• Exploring sliders and levers; understanding types of movement; technical vocabulary.</li> </ul>	Regal Royals <b>Textiles</b> Puppets <ul style="list-style-type: none"> <li>• Design a functional, appealing product for a chosen user and purpose.</li> <li>• Generate, develop, and communicate ideas.</li> <li>• Use a range of textiles, tools and equipment to perform practical tasks.</li> <li>• Explore and evaluate existing textile products and their own ideas and products.</li> <li>• Understand how 3-D textile products are made, using joining, templates and finishing to create two identical shapes.</li> </ul>	Beastly Bugs
		Cycle 2	All About Me	Fire! Fire! <b>Nutrition – Wrap</b> <ul style="list-style-type: none"> <li>• Designing appealing products for a user; investigating fruit and vegetables and generating</li> </ul>	Fantastic Fabrics	How Does Your Garden Grow? <b>Mechanisms – Wheels and axles</b> – Wheels – working with wheels and axles <ul style="list-style-type: none"> <li>• Generate ideas and simple design</li> </ul>

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			<p>ideas; communicating through talk and drawings.</p> <ul style="list-style-type: none"> <li>• Selecting a range of fruits and vegetables; using simple utensils and equipment.</li> <li>• Tasting and evaluating user's preference; evaluating ideas and finished products against original criteria.</li> <li>• Understand where ingredients come from and the basis of a healthy and varied diet.</li> </ul>		<p>criteria.</p> <ul style="list-style-type: none"> <li>• Develop and communicate ideas through drawings and mock-ups.</li> <li>• Select a range of tools and equipment and materials to perform practical tasks.</li> <li>• Explore wheels and axles and evaluate their ideas and products against original criteria.</li> </ul>	<p>talk, mock-ups and drawings.</p> <ul style="list-style-type: none"> <li>• Planning making, selecting tools and new and recycled materials; using finishing techniques.</li> <li>• Exploring existing freestanding structures; evaluating their own products against original criteria.</li> <li>• Know about strengthening structures; knowledge of vocabulary.</li> </ul>
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Lower KS2		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 3</b>			<p style="background-color: #e0f7fa;"><b>Textiles – Aprons</b></p> <ul style="list-style-type: none"> <li>• Generate design criteria for an appealing, functional product for specific users.</li> <li>• Produce annotated sketches, prototypes, final product sketches and pattern pieces.</li> <li>• Select fabrics and fastenings according to their functional characteristics.</li> <li>• Investigate a range of 3-D textile products.</li> <li>• Test their product against the original criteria and with the intended user.</li> </ul>		<p style="background-color: #e0ffe0;"><b>Mechanical Systems</b> – Moving History Book</p> <ul style="list-style-type: none"> <li>• Generate realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas.</li> <li>• Select and use tools with some accuracy to cut, shape and join paper and card.</li> <li>• Investigate and analyse their own and others’ products with lever and linkage mechanisms.</li> <li>• Understand and use lever and linkages, and fixed and loose pivots.</li> </ul>		<p style="background-color: #fff9c4;"><b>Nutrition – Super Salads</b></p> <ul style="list-style-type: none"> <li>• Generate ideas and develop design criteria for an appealing product for a user and purpose.</li> <li>• Plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>• Select from a range of ingredients to make appropriate food products.</li> <li>• Carry out and record evaluations of a variety of ingredients and products.</li> <li>• Know a range of</li> </ul>

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							appropriate ingredients, and whether they are grown, reared or caught.
	<b>Year 4</b>		<p style="text-align: center;"><b>Nutrition – Dips and Dippers</b></p> <ul style="list-style-type: none"> <li>• Generate ideas and develop design criteria for an appealing product for a user and purpose.</li> <li>• Plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>• Select from a range of ingredients to make appropriate food products.</li> <li>• Carry out and record evaluations of a variety of ingredients and products.</li> <li>• Know a range of appropriate ingredients, and whether they are grown, reared or caught.</li> </ul>		<p style="text-align: center;"><b>Electrical Systems – Developing Handmade Switches</b></p> <ul style="list-style-type: none"> <li>• Use annotated sketches, cross sectional and exploded diagrams to develop and communicate ideas.</li> <li>• Select and use tools with some accuracy to cut, shape, join and finish.</li> <li>• Use construction materials and electrical components according to their functional properties and aesthetic qualities.</li> <li>• Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.</li> </ul>		<p style="text-align: center;"><b>Structure – Banish Broken Biscuits! Box them Brilliantly!</b></p> <ul style="list-style-type: none"> <li>• Generate and develop realistic ideas and design criteria collaboratively and through analysis of existing products.</li> <li>• Order the stages of making; selecting tools and using with some accuracy.</li> <li>• Investigate and evaluate shell structures, and construct strong, stiff shell structures.</li> <li>• Test and evaluate own products against design criteria and intended user and purpose.</li> </ul>
Upper KS2	<b>Year 5</b>		<p style="text-align: center;"><b>Nutrition – Christmas Ginger Biscuits</b></p> <ul style="list-style-type: none"> <li>• Generate and explore innovative</li> </ul>		<p style="text-align: center;"><b>Mechanisms – Gears and Pulleys</b></p> <ul style="list-style-type: none"> <li>• Generate ideas through research and</li> </ul>		<p style="text-align: center;"><b>Textiles – Designer Bags</b></p> <ul style="list-style-type: none"> <li>• Generate and communicate</li> </ul>

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		<p>ideas through research and discussion to develop a design brief.</p> <ul style="list-style-type: none"> <li>• Write a step-by-step recipe, including a list of ingredients, equipment and utensils.</li> <li>• Using appropriate utensils and equipment accurately, make, decorate and present a food product for the intended user and purpose.</li> <li>• Evaluate a range of relevant products and ingredients and the final product with reference to the design brief and specification.</li> <li>• Understand seasonality and the source of different food products.</li> </ul>		<p>develop and communicate a simple design specification.</p> <ul style="list-style-type: none"> <li>• Select use a range of tools and equipment to make products that that are accurately assembled and well finished within the constraints of time, resources and cost.</li> <li>• Compare the final product to the original design specification and test the quality of the design, manufacture and functionality with the user.</li> <li>• Investigate famous manufacturing and engineering companies relevant to the project.</li> </ul>		<p>innovative ideas through research.</p> <ul style="list-style-type: none"> <li>• Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making.</li> <li>• Investigate and analyse textile products linked to their final product and compare the final product to the original design specification.</li> <li>• Know that a 3-D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that fabrics can be strengthened, stiffened and reinforced.</li> </ul>
<b>Year 6</b>		<p><b>Frame structures – Bird Hide Challenge</b></p> <ul style="list-style-type: none"> <li>• Research user needs and existing products and develop and model innovative ideas into a design specification.</li> </ul>			<p><b>Electrical systems – Night Lights (Crumble Controller)</b></p> <ul style="list-style-type: none"> <li>• Develop a design specification for a functional product that responds automatically to changes in the</li> </ul>	<p><b>Nutrition – Making Bread</b></p> <ul style="list-style-type: none"> <li>• Generate and explore innovative ideas through research and discussion to develop a design brief.</li> </ul>

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			<ul style="list-style-type: none"> <li>• Formulate a plan with a step-by-step list of tasks and resources.</li> <li>• Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks.</li> <li>• Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria.</li> <li>• Research key events and individuals relevant to frame structures.</li> </ul>			<p>environment.</p> <ul style="list-style-type: none"> <li>• Formulate a step-by-step plan to making, listing tools, equipment, materials and components.</li> <li>• Use a computer control program to enable an electrical product to work automatically in response to changes in the environment.</li> <li>• Test and evaluate the system to demonstrate its effectiveness for the intended user and purpose.</li> <li>• Know and use technical vocabulary relevant to the project.</li> </ul>	<ul style="list-style-type: none"> <li>• Write a step-by-step recipe, including a list of ingredients, equipment and utensils.</li> <li>• Using appropriate utensils and equipment accurately, make, decorate and present a food product for the intended user and purpose.</li> <li>• Evaluate a range of relevant products and ingredients and the final product with reference to the design brief and specification.</li> <li>• Understand seasonality and the source of different food products.</li> </ul>
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