



# Design and Technology at Wolsingham Primary School



Curriculum Intent			
Year 1			
	Autumn	Spring	Summer
<b>Title</b>	<b>Free Standing Structures</b>	<b>Mechanisms</b>	<b>Food and Nutrition</b>
<b>Statutory focus / knowledge and skills</b>	<ul style="list-style-type: none"> <li>Generating design ideas; developing modelling and explaining using talk, mock-ups and drawings.</li> <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. Know about strengthening structures; knowledge of vocabulary</li> </ul>	<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> <li>Create a product using levers, and sliders</li> </ul>	<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> <li>Cut, Peel or grate ingredients safely and hygienically.</li> <li>Measure or weigh using measuring cups or electronic scales.</li> <li>Assemble or cook ingredients.</li> <li></li> </ul>
<b>Post Learning Task</b>	Stable Structures Create a toy car garage	Sliders and Levers Moving Pictures	Preparing Fruit and Vegetables
Year 2			
	Autumn	Spring	Summer
<b>Title</b>	<b>Free Standing Structures &amp; Electrical and electronics</b>	<b>Food and Nutrition</b>	<b>Textiles &amp; Pneumatics</b>
<b>Statutory focus / knowledge and skills</b>	<ul style="list-style-type: none"> <li>Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage)</li> </ul>	<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> </ul>	<ul style="list-style-type: none"> <li>Generate their own realistic ideas and use annotated sketches and prototypes to develop, model and communicate ideas</li> <li>Shape textiles using templates. Join textiles using running stitch.</li> </ul>

		<ul style="list-style-type: none"> <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> <li>• Cut, Peel or grate ingredients safely and hygienically. .</li> <li>• Assemble or cook ingredients.</li> </ul>	<ul style="list-style-type: none"> <li>• Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing)</li> <li>• Select and use tools with some accuracy, cut and join materials and components such as tubing, syringes and balloons.</li> <li>• Investigate and find information on and products with pneumatic mechanisms and evaluate their own products and ideas against criteria and user needs.</li> <li>• Understand and use pneumatic mechanisms.</li> </ul>
<b>Post Learning Task</b>	Wind turbine	Perfect Pizza	Create a variety of puppets
<b>Year 3</b>			
	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Title</b>	Mechanical Systems Levers and Linkage	Food and Nutrition	Structures
<b>Statutory focus / knowledge and skills</b>	<ul style="list-style-type: none"> <li>• Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user.</li> <li>• Use annotated sketches and prototypes to develop, model and communicate ideas.</li> <li>• Order the main stages of making.</li> <li>• Select from and use appropriate tools with some accuracy to cut, shape and join paper and card.</li> <li>• Select from and use finishing techniques suitable for the product they are creating.</li> <li>• Investigate and analyse books and, where available, other products with lever and linkage mechanisms.</li> <li>• Evaluate their own products and ideas against criteria and user needs, as they design and make.</li> <li>• Understand and use lever and linkage mechanisms.</li> <li>• Distinguish between fixed and loose pivots.</li> </ul>	<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>	<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>

	<ul style="list-style-type: none"> <li>Know and use technical vocabulary relevant to the project.</li> </ul>		
<b>Post Learning Task</b>	Moving Christmas Cards	Healthy and varied diet Dip and dippers for a party	Create a kite
<b>Year 4</b>			
	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Title</b>	Textiles	Electrical Systems	Food and Nutrition
<b>Statutory focus / knowledge and skills</b>	<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> <li>Understand the need for a seam allowance.</li> <li>Join textiles with appropriate stitching.</li> <li>Select the most appropriate techniques to decorate textiles.</li> </ul>	<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>	<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>
<b>Post Learning Task</b>	Create a cushion – user group?	Introduce crumble Make a lamp, torches, lanterns Programmable components - coding	Bread Making
<b>Year 5</b>			
	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Title</b>	Food and Nutrition	Structures and Electrical Systems	Mechanical Systems
<b>Statutory focus / knowledge and skills</b>	<ul style="list-style-type: none"> <li>Understand the importance of correct storage and handling of ingredients (using knowledge of microorganisms).</li> <li>Measure accurately and calculate rations of ingredients to scale up or down from a recipe.</li> <li>Demonstrate a range of baking and cooking techniques. Create and refine recipes, including ingredients, methods, cooking times and temperatures.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a design specification for a product that responds automatically to environmental changes in the environment.</li> <li>Generate and communicate ideas through annotated sketches and representations of electrical circuits or circuit diagrams.</li> <li>Using a step-by-step plan, select and accurately assemble materials, electrical components, to produce a functional product.</li> </ul>	<ul style="list-style-type: none"> <li>Generate a design from research; develop a specification, model and communicate ideas.</li> <li>Produce lists of tools and materials and plans to make accurately assembled and well finished products within constraints.</li> <li>Compare final product to the original specification; test products with the intended user and critically evaluate the product, considering the views of others.</li> </ul>

		<ul style="list-style-type: none"> <li>• Create and modify a computer control program to enable their electrical product to respond to changes in the environment.</li> <li>• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips)</li> <li>• Write code to control and monitor models or products.</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate famous manufacturing and engineering companies relevant to the project.</li> <li>• Convert rotary motion to linear using cams.</li> <li>• Use innovative combinations of electronics (or computing) and mechanics in product designs.</li> </ul>
<b>Post Learning Task</b>	Baking biscuits	Use crumble to make something move. Coding to make buggy move Police car Mars robots	Create a moving cams toy
<b>Year 6</b>			
	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Title</b>	Food and Nutrition	Stable Structures	Textiles - Using computer-aided design in textiles - CAD
<b>Statutory focus / knowledge and skills</b>	<ul style="list-style-type: none"> <li>• Generate and explore innovative ideas through research and discussion to develop a design brief.</li> <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>	<ul style="list-style-type: none"> <li>• Research user needs and existing products and develop and model innovative ideas into a design specification.</li> <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>	<ul style="list-style-type: none"> <li>• Generate innovative ideas through research and develop these using mock-ups and prototypes including using computer-aided design.</li> <li>• Design functional, appealing products for the intended user that are fit for purpose based on a simple design specification.</li> <li>• Select and use a range of tools and equipment, including CAD, to make products that are accurately assembled and well finished.</li> <li>• Work within the constraints of time, resources and cost.</li> <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>Post Learning Task</b>	Celebrating culture and seasonality Global Food	Frame Structures Marbulous structures	Create 3D printing
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