

Charlton Mackrell C of E Primary School

'The one who gets wisdom loves life.' Proverbs 19:8

Our core concepts in Design and Technology are: Design, Make, Evaluate and Technical Knowledge.

Our **Design and Technology** curriculum is based on the following principles:

- Ensure that children have a deep-rooted understanding of using creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.
- An acknowledgement that children need to revisit and systematically build on their learning by taking risks, becoming resourceful, innovative, enterprising and capable citizens.
- Children are immersed in age-appropriate creative and practical activities and taught the skills needed to engage in designing and making in all year groups to ensure that they have the subject-specific language skills required to communicate their understanding.
- The design and technology curriculum provides real-life opportunities to apply and deepen their skills and knowledge in the core curriculum subjects ensuring that they can understand the rationale behind learning in these areas.
- High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	Food Cut, peel or grate ingredients safely and hygienically. To use basic principles of a healthy and	Food Cut, peel or grate ingredients safely and hygienically. To use basic principles of a healthy and	Make a Stone Age weapon Research and develop design criteria to create a product that is fit for purpose.	Shadow puppets Select from a range of materials and components according to their characteristics.	Cookery To understand and apply the principles of a healthy and varied diet. To prepare and cook a variety of	Make an illuminated carnival float. Design, research and develop design criteria of innovative, functional, appealing

	<p>varied diet to prepare dishes.</p> <p>To understand where food comes from.</p>	<p>varied diet to prepare dishes.</p> <p>To understand where food comes from.</p>	<p>Select from a range of materials and components according to their characteristics.</p> <p>Cut materials accurately and safely by selectin from a range of appropriate tools.</p> <p>Select appropriate joining techniques.</p>	<p>Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.</p> <p>Evaluate ideas and products against design criteria.</p>	<p>predominantly savoury dishes using a range of cooking techniques.</p> <p>To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>products that are fit for the purpose.</p> <p>To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.</p> <p>Make – select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.</p> <p>Select from and use a range of materials and components,</p>
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						<p>including construction materials, and aesthetic qualities.</p> <p>Evaluate – Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>Technical knowledge – Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p> <p>Understand and use mechanical systems in their</p>
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						products, cams and axles. Understand and use electrical systems in their products (circuits incorporating switches and bulbs).
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	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	<p>Construction</p> <p>Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products</p> <p>Design, make, evaluate, improve</p>	<p>Construction</p> <p>Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products</p> <p>Design, make, evaluate, improve</p>	<p>Cooking and nutrition – traditional dishes within the UK</p> <p>Research, create and evaluate two different types of bread</p> <p>Understand where food comes from and the principles of a healthy diet.</p> <p>Prepare ingredients hygienically</p>	<p>Fire engine Moving vehicles</p> <p>Understand and use mechanical systems in products (winding mechanisms).</p> <p>Research and develop design criteria to inform the design of fit for purpose products.</p>	<p>Sewing</p> <p>To select from and use a wider range of materials and components according to aesthetic qualities.</p>	<p>Sewing</p> <p>To select from and use a wider range of materials and components according to aesthetic qualities.</p>

			<p>using appropriate utensils.</p> <p>Measure ingredients to the nearest gram accurately.</p> <p>Follow a recipe.</p> <p>Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</p>	<p>Generate, develop, model and communicate ideas through a variety of means.</p>		
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	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	<p>Textiles</p> <p>Join textiles using running stitch.</p>	<p>Textiles</p> <p>Join textiles using running stitch.</p>	<p>Fridge magnets</p> <p>Design purposeful, functional and appealing products based on design criteria.</p> <p>Select from a wide range of materials according to</p>	<p>Cooking and nutrition- bread</p> <p>Research, create and evaluate two different types of bread</p> <p>Understand where food comes from and the principles of a healthy diet.</p>	<p>To make a Viking ship sailing on the sea.</p> <p>Design – Use research and develop design criteria to inform the design of innovative, functional, appealing</p>	<p>Axels and pulleys to operate a water system.</p> <p>Design – Use research and develop design criteria to inform the design of innovative, functional, appealing products that</p>

			<p>their characteristics.</p> <p>Explore and evaluate existing products.</p> <p>Explore and evaluate own products against design criteria.</p>	<p>Prepare ingredients hygienically using appropriate utensils.</p> <p>Measure ingredients to the nearest gram accurately.</p> <p>Follow a recipe.</p> <p>Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</p>	<p>products that are fit for purpose.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and pattern pieces.</p>	<p>are fit for purpose.</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes and pattern pieces.</p>
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	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	Castles and bridges	Castles and bridges	Building-structures	Buildings Structures – link to settlements	Cams – Viking boats continued.	Axels and pulleys continued.
	Materials	Materials	Generate, develop, model and communicate ideas.	Generate, develop, model and communicate ideas.	Make – select from and use a wider range of tools and	Make – select from and use a wider range of tools and
	Cut materials safely using tools provided	Cut materials safely using tools provided				

	<p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling</p> <p>Design products that have a clear purpose and an intended user</p> <p>Make products, refining the design as work progresses.</p> <p>Explore objects and designs to identify likes and dislikes of the designs.</p>	<p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling</p> <p>Design products that have a clear purpose and an intended user</p> <p>Make products, refining the design as work progresses.</p> <p>Explore objects and designs to identify likes and dislikes of the designs.</p>	<p>Carefully select materials.</p> <p>Build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Select appropriate joining techniques.</p>	<p>Carefully select materials.</p> <p>Build structures with increasing independence.</p> <p>Begin to demonstrate a growing understanding of how to reinforce and strengthen finished products.</p> <p>Select appropriate joining techniques.</p>	<p>equipment to perform practical tasks (cutting, shaping, joining and finishing) accurately. Evaluate – Investigate and analyse a range of existing products. Evaluate their own ideas. Technical knowledge. Understand and use mechanical systems in their cams.</p>	<p>equipment to perform practical tasks (cutting, shaping, joining and finishing) accurately. Evaluate – Investigate and analyse a range of existing products. Evaluate their own ideas. Technical knowledge. Understand and use mechanical systems in their gears and pulley system.</p>
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	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	<p>Materials</p> <p>Cut materials safely using tools provided.</p> <p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling.</p>	<p>Materials</p> <p>Cut materials safely using tools provided.</p> <p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling.</p>	<p>Catapults</p> <p>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears)</p> <p>Choose suitable techniques to construct products</p> <p>Strengthen materials using suitable techniques</p>	<p>Balloon / rubber band powered boats</p> <p>Design purposeful, functional, appealing products based on design criteria.</p> <p>Generate, develop, model and communicate ideas through talking and drawing.</p> <p>Select from and use a wider range of materials, tools and components, according to their characteristics.</p> <p>Evaluate ideas and products</p>		<p>Structures to make a shelter.</p> <p>Design – use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>Generate, develop, model and communicate their ideas through discussions, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.</p>

				against design criteria.		
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	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
Curriculum Knowledge and Skills	<p>Materials</p> <p>Cut materials safely using tools provided</p> <p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling</p> <p>Design products that have a clear purpose and an intended user</p> <p>Make products, refining the design as work progresses.</p>	<p>Materials</p> <p>Cut materials safely using tools provided</p> <p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling</p> <p>Design products that have a clear purpose and an intended user</p> <p>Make products, refining the design as work progresses.</p>	<p>Textiles – create a flag</p> <p>Research and develop appealing products aimed at particular groups.</p> <p>Select from a wide range of materials.</p> <p>Join textiles with appropriate stitching.</p> <p>Select the most appropriate techniques to decorate textiles.</p>	<p>Textiles- make a fabric fish</p> <p>Research and develop appealing products aimed at particular groups.</p> <p>Select from a wider range of textiles according to their functional properties and aesthetic qualities.</p> <p>Measure and mark out to the nearest millimetre</p> <p>Join textiles with appropriate stitching.</p> <p>Select the most appropriate techniques</p>		<p>Structures Continued.</p> <p>Make – select from and use a wider range of tools and equipment to perform practical tasks.</p> <p>Select from and use a wider range of materials and components.</p> <p>Evaluate – Investigate and analyse a range of existing products.</p> <p>Evaluate their ideas and products against their</p>

	Explore objects and designs to identify likes and dislikes of the designs.	Explore objects and designs to identify likes and dislikes of the designs.	Understand the need for a seam allowance.	to decorate textiles. Evaluate products against a design criteria.		<p>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>Technical knowledge – Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p>
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