

## Design and Technology Curriculum



### Intent

At St Werburgh's Catholic Primary School, we have designed a Design and Technology curriculum that strives to provide the children with the practical and problem solving skills, creativity and imagination to prepare them of the fundamental influence that Design and Technology has on their immediate life experience.

Our high quality planning, informed by the National Curriculum, aims to develop a knowledge and understanding of Design and Technology that provides the foundations for life in the modern world. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

### Implementation

Design and Technology at St Werburgh's Catholic Primary School is implemented through a variety of different projects linked to the wider curriculum where appropriate. These projects focus on the knowledge and skills stated in the National Curriculum.

The long term plan ensures equal coverage of the different strands of Design and Technology and teaches the knowledge, understanding and skills needed to engage in an iterative process of designing and making. Design and Technology skills are taught sequentially across the key stages and new skills build on and develop the skills taught in previous year groups. The delivery of DT follows a structure of the design process where each project will follow: research, design, make and evaluate. In medium term planning, teachers have created a cycle of lessons which carefully plan for progression and depth of skills so that pupils can experiment and evaluate on the way to making their product. The children design and create products that consider function and purpose. Key vocabulary is promoted during lessons and through displays to encourage a language rich Design and Technology curriculum essential to the successful acquisition of knowledge and understanding in Design and Technology.

### Impact

Our Design and Technology curriculum will ensure all of our pupils, regardless of different backgrounds and starting points, have the same opportunities to explore and enquire about the world in which they live. Knowledge, understanding and skills will be secured and embedded so that all pupils achieve their full potential.

Pupils will evaluate and analyse design and technology and will consider the work of designers and what drives design innovation and the impact of design and technology in everyday life. When pupils encounter a challenge, they will demonstrate resilience. We aim to ensure that all pupils are equipped with the specific knowledge to understand the uses and implications of design and technology. Design has changed our lives and is vital to the world's future prosperity.

## ST WERBURGH'S CATHOLIC PRIMARY SCHOOL

Pre-School	Aut 1	Aut 2	Spr 1	Spr2	Sum 1	Sum 2
		Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. (creative area, playdough area etc).	Make simple models which express their ideas. 'Squirrels Snowman' – building snowmen in provision.	Building houses for the 3 Little Pigs using materials in the outdoor and indoor provision.		Loose parts play.
F1	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
		Children will design and create a shadow theatre. Children will design and create a Christmas card, calendar and decoration.	Children will design fairy tale houses in outdoor provision.		Children will create a sea creature model.	
F2	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
		Children will design and make a Christmas card, calendar and decoration.		Children will design and create an Easter and Mother's Day card.		Children will design a 3-d model and know a variety of ways of joining materials (including split pins, making folds, flaps, tabs and flanges.)
	Aut 1	Aut 2		Spr 2	Sum 1	Sum 2
Year 1	Art focus	<b>Make a moving Christmas card Mechanisms</b>	Art focus	<b>Make a Free Standing Structure</b>	Art focus	<b>Make a fruit based snack Food</b>
Key knowledge		<ul style="list-style-type: none"> <li>* Understand the different types of movement that can be created using sliders and levers</li> <li>* Be able to use paper and card to make sliders and levers</li> <li>* Be able to make a Christmas card that incorporates sliders and/or levers.</li> </ul>		<ul style="list-style-type: none"> <li>* Begin to generate a design based on design criteria.</li> <li>* Know how to make freestanding structures stronger, stiffer and more stable.</li> <li>* Be able to select materials suitable to build a freestanding structure.</li> <li>* Be able select the best method for joining different materials together</li> </ul>		<ul style="list-style-type: none"> <li>* Begin to understand the origin of foods</li> <li>* Begin to understand that some foods are nutritious for our bodies</li> <li>* Identify and classify a range of fruit and vegetables</li> <li>* Be able to design a snack using a variety of prepared fruit.</li> <li>* Select and use the appropriate tools to make fruit smoothies/fruit skewers/fruit salad and dip/topping.</li> </ul>

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	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 2	Art focus	<b>Make a wild animal glove puppet</b> Textiles	Art focus	<b>Make a healthy picnic lunch</b> Food	<b>Make a space/moon buggy</b> Mechanisms	Art focus
Key knowledge		<ul style="list-style-type: none"> <li>* Understand how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>* Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> <li>* Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</li> </ul>		<ul style="list-style-type: none"> <li>* Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>.</li> <li>* Understand where a range of fruit and vegetables come from</li> <li>* Select from a range of <i>fruit and</i> vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</li> <li>* Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely</li> </ul>	<ul style="list-style-type: none"> <li>* Explore and use wheels, axles and axle holders.</li> <li>* Be able to create moving wheels using either fixed axles or free axles.</li> <li>* Be able to produce prototypes and mock-ups to test the methods of making axles.</li> <li>* Be able to generate an exploded diagram.</li> </ul>	

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 3	Art focus	<b>Make a moving Christmas Card</b> Mechanisms	Art focus	<b>Make a gift box</b> Shell Structures	<b>Make breakfast on the go</b> Food	Art focus
Key knowledge		<ul style="list-style-type: none"> <li>* To understand and use lever and linkage mechanisms</li> <li>* To distinguish between and use fixed and loose pivots.</li> <li>* Be able to make a Christmas card that uses levers and linkages.</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> </ul>		<ul style="list-style-type: none"> <li>* Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>* Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> <li>* Be able to produce prototypes and mock-ups to test their design for the shell structure and use the information gained from these to inform the piece.</li> </ul>	<ul style="list-style-type: none"> <li>* Understand where ingredients are grown and seasonality</li> <li>* Understand what makes an ingredient healthy</li> <li>* Select and use a range of utensils to chop and mix a range of sweet and savoury ingredients</li> <li>* Prepare and cook healthy muffins by baking them in an oven</li> </ul>	

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	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 4	<b>Make a pencil case Textiles</b>	Art focus	Art focus	<b>Make a torch Electricity</b>	<b>Make a healthy lunch from a different culture Food</b>	Art focus
Key knowledge	<ul style="list-style-type: none"> <li>* Understand how to securely join two pieces of fabric together.</li> <li>* To understand that sewing is a joining technique and be able to sew.</li> <li>* Understand the need for patterns and seam allowances.</li> <li>* Use different finishing techniques e.g. using applique, fabric crayons, stitching, sequins, buttons and ribbons.</li> </ul>			<ul style="list-style-type: none"> <li>* Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers</li> <li>* Understand and be able to correct a short in the circuit.</li> <li>* Know how to enclose a circuit within the body of a design.</li> <li>* Understand the properties of different materials when making decisions, e.g. waterproof, warm.</li> </ul>	<ul style="list-style-type: none"> <li>* Understand what makes a healthy, varied diet</li> <li>* Understand where different foods come from</li> <li>* Select and use different tools and techniques to prepare a range of dips</li> <li>* Select and use different tools and techniques to make fried flatbreads</li> </ul>	

	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 5	<b>Make a shelter Frame Structures</b>	Art focus	Art focus	<b>Make a bread based lunch Food</b>	Art focus	<b>Make a fairground ride Mechanisms</b>
Key knowledge	<ul style="list-style-type: none"> <li>* Use knowledge of nets of complex 3D shapes to develop frame structures.</li> <li>* Know how to make paper stronger and more rigid to use in making frame structures.</li> <li>* Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> <li>* Understand the properties of different materials when making decisions, e.g. waterproof, warm.</li> </ul>			<ul style="list-style-type: none"> <li>* Understand seasonality of produce and varieties of grains</li> <li>* Know how wheat and other grains are processed to make flour in the UK</li> <li>* Understand yeast as an active ingredient in making bread</li> <li>* Use a range of tools and techniques to bake two different types of bread to compare</li> </ul>		<ul style="list-style-type: none"> <li>* Understand that mechanical and electrical systems have an input, process and an output.</li> <li>* Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.</li> <li>* Understand how to program, monitor and control their products using ICT.</li> </ul>

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	Aut 1	Aut 2	Spr 1	Spr 2	Sum 1	Sum 2
Year 6	Art focus	<b>Make an automatic night light Electricity</b>	Art focus	<b>Make a bag using recycled fabrics (make do and mend) Textiles</b>	Art focus	<b>Make a balanced meal for a family Food</b>
Key knowledge		<ul style="list-style-type: none"> <li>* Understand and use electrical systems in their products.</li> <li>* Apply their understanding of computing to program, monitor and control their products</li> <li>* Know how to enclose/hide a circuit within the body of a design.</li> </ul>		<ul style="list-style-type: none"> <li>* Know that 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>* Know how to make a prototype and use this to make their own pattern pieces.</li> <li>* Understand that sewing is a joining technique and be able to sew.</li> </ul>		<ul style="list-style-type: none"> <li>* Understand seasonal vegetables, where they come from and how to reduce food miles</li> <li>* Be able to choose and use appropriate methods to cook each of the ingredients</li> <li>* Use a range of tools to prepare the components of the family meal ready for cooking</li> </ul>