



## St Pauls Catholic School D&T Curriculum Overview 22-23

### Overview Rationale

We believe design and technology is about understanding the **process** of designing and making products for a specific user and purpose. It involves children in learning about the world we live in and developing a wide range of knowledge and skills through designing and making. It helps children to think through problems creatively, about how to organise themselves and how to use knowledge and skills to bring about change and to shape the environment. Through design and technology children become discriminating and informed users of products and become innovators. We believe Design and Technology offers opportunities for children to:

- develop their capability to create high quality products through combining their designing and making skills with knowledge and understanding;
- develop a sense of enjoyment and pride in their ability to make;
- nurture creativity and innovation through designing and making;
- develop an interest and understanding of the ways in which people from the past and present have used design to meet their needs.

### Structure

- To ensure that children receive the breadth of learning required by the National Curriculum and that they increase their knowledge, understanding and skills over time,
- To ensure that the requirements of the programmes of study are met effectively, aim to complete one project per term or six projects in KS1 and twelve in KS2.
- As long as projects are covered within the two-year cycle, they can be taught in any order. This means that projects can be matched with termly topics or themes and links can be made with related learning in other subjects, such as science, mathematics or art and design.
- Ensure that each term's project addresses a particular aspect of the subject. At KS1, these are mechanisms, structures, food and textiles, and at KS2 mechanical systems, electrical systems, structures, food and textiles.
- Identify the focus for children's learning in each project
- Teach two mechanisms projects in KS1 – one on sliders and levers, and the other on wheels and axles. This will ensure the necessary prior learning for mechanical systems projects in KS2 on lever and linkages, and pulleys or gears.
- Build the requirements for 'cooking and nutrition' in each key stage into projects on food.

	Autumn	Spring	Summer 2
Reception/EYFS Topics and Skills	<b>1. All About Me</b> <ul style="list-style-type: none"> <li>Joining with tape</li> <li>Cooking bread</li> <li>Modelling houses</li> </ul> <b>2. Terrific Tales</b> <ul style="list-style-type: none"> <li>Dough skills – rolling, pinching, patting, printing, holes</li> <li>Modelling diva lamps</li> </ul>	<b>1. People who help us</b> <ul style="list-style-type: none"> <li>Split pin dragon</li> <li>Introduce planning before making</li> </ul> <b>2. Ticket to Ride</b> <ul style="list-style-type: none"> <li>Introduce plan-do-review after making</li> <li>Using hole punch to join and make 3D transport</li> </ul>	<b>1. Mini Beasts</b> <ul style="list-style-type: none"> <li>Make an insect joining with tabs</li> <li>Folding paper into zig zags</li> </ul> <b>2. Fun at the seaside</b> <ul style="list-style-type: none"> <li>Joining with string</li> <li>Making natural sculptures</li> </ul>
	<b>EYFS D&amp;T Skills across the year:</b> <ul style="list-style-type: none"> <li>Use construction to create props or settings for small world play</li> <li>Model props using a range of materials</li> <li>Explore 3D modelling and construct with a purpose</li> <li>Use a wide range of media independently</li> <li>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function</li> <li>Share creations explaining the process used</li> <li>Make use of props and materials when role playing characters in narratives and stories</li> </ul>		
KS1 Topics & Skills			
Cycle A	<b>Toys:</b> <b>Design &amp; Make a Jack-in-a-Box</b> <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves &amp; other users based on design criteria</li> <li>Select from and use a range of tools, equipment and materials</li> <li>Generate, develop, model and communicate ideas through talking, drawing, templates and mock-ups <b>ORACY</b></li> <li>Explore &amp; use mechanisms in product (concertinas/springs)</li> <li>Evaluate ideas &amp; products against design criteria <b>ORACY</b></li> </ul>	<b>Bridges:</b> <b>Build a drawbridge using wheels &amp; axles</b> <ul style="list-style-type: none"> <li>Build structures, exploring how they can be made stiffer, stronger or more stable</li> <li>Generate, develop, model and communicate ideas through talking, drawing, templates and mock-ups, building on from previous term's project <b>CST ORACY</b></li> <li>Select from and use a range of components including construction materials</li> <li>Explore &amp; use mechanisms in products</li> <li>Evaluate ideas &amp; products against design criteria <b>ORACY</b></li> </ul>	<b>Cooking &amp; Nutrition: Kings &amp; Queens:</b> <b>To create a jam tart &amp; design</b> <ul style="list-style-type: none"> <li>Use the basic principles of a healthy &amp; varied diet to prepare dishes</li> <li>Understand where food comes from <b>CST</b></li> <li>Design purposeful and appealing products based on design criteria</li> <li>Select from and use a range of components including ingredients according to their characteristics</li> <li>Explore and evaluate an existing range of products</li> <li>Evaluate ideas &amp; products against design criteria</li> </ul>
Cycle B	<b>Huntley &amp; Palmers:</b> <b>Design &amp; Make a biscuit box</b> <ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves &amp; other users</li> <li>Generate, develop, model and communicate ideas <b>ORACY</b></li> <li>Select from and use a range of tools, equipment and materials</li> </ul>	<b>Great Fire of London:</b> <b>Houses CST</b> <b>To use levers and sliders to imitate fire</b> <ul style="list-style-type: none"> <li>Design a functional product based on design criteria</li> <li>Explore and use mechanisms in products</li> <li>Select from and use a range of components including construction materials</li> <li>Evaluate ideas against design criteria <b>ORACY</b></li> </ul>	<b>Cooking &amp; Nutrition: Explorers</b> <b>To design &amp; cook a dish</b> <ul style="list-style-type: none"> <li>Use the basic principles of a healthy &amp; varied diet to prepare dishes (linked to Science topic)</li> <li>Understand where food comes from <b>CST</b></li> <li>Design purposeful and appealing products based on design criteria</li> </ul>

	<ul style="list-style-type: none"> <li>Build structures, exploring how they can be made stiffer, stronger or more stable</li> </ul> <p>Evaluate own work against design criteria <b>ORACY</b></p>	<p>Additional:</p> <ul style="list-style-type: none"> <li>Develop, model and communicate ideas through information &amp; communication technology (through computing topic on rockets) <b>ORACY</b></li> <li></li> </ul>	<ul style="list-style-type: none"> <li>Select from and use a range of components including ingredients according to their characteristics</li> <li>Explore and evaluate an existing range of products</li> <li>Evaluate ideas &amp; products against design criteria</li> </ul>
<p><b>LKS2</b> Topics &amp; Skills</p>			
<p>Year 3 Cycle (A)</p>	<p><b>Romans:</b></p> <p><b>Make a model Aqueduct</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of functional products that are fit for purpose <b>ORACY</b></li> <li>Generate, develop, model and communicate ideas through discussion, annotated sketches &amp; prototypes</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks accurately</li> <li>Understand how key events and individuals in design &amp; technology have helped shape the world</li> <li>Understand and use mechanical systems in their products (levers &amp; linkages)</li> </ul> <p><b>Design &amp; Make a Roman Shoe</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of functional products that are fit for purpose <b>CST</b></li> <li>Generate, develop, model and communicate ideas through discussion, annotated sketches &amp; prototypes <b>ORACY</b></li> <li>Select from and use a wider range of materials and components including textiles according to their aesthetic qualities</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks accurately</li> </ul>	<p><b>Saxon Textiles:</b></p> <p><b>Weaving &amp; Cross-stitch longboat design</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks</li> <li>Select from and use a wider range of materials and components including textiles according to their aesthetic qualities <b>CST</b></li> <li>Understand how key events and individuals in design &amp; technology have helped shape the world</li> <li>Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>	<p><b>Our World:</b></p> <p><b>Design &amp; Make a 3 Course International Meal</b></p> <ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy &amp; varied diet <b>ORACY</b></li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed <b>CST</b></li> <li>Investigate and analyse a range of existing products</li> <li>Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>Select from and use a wider range of materials and components (ingredients) according to their functional properties and aesthetic qualities</li> <li>Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>

	<ul style="list-style-type: none"> <li>Understand how key events and individuals in design &amp; technology have helped shape the world</li> <li>Evaluate their ideas and products against their own design criteria</li> </ul>		
Year 4 Cycle (B)	<p><b>Egyptians: Make an Egyptian Bread</b></p> <ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy &amp; varied diet <b>CST</b></li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</li> <li>Investigate and analyse a range of existing products</li> <li>Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>Select from and use a wider range of materials and components (ingredients) according to their functional properties and aesthetic qualities</li> <li>Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>	<p><b>Rainforests: Design and make a moving rainforest scene</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of appealing, functional products that are fit for purpose aimed at particular individuals or groups <b>CST</b></li> <li>Select from and use a wider range of materials and components including construction materials and textiles according to their functional properties and aesthetic qualities</li> <li>Apply understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>Understand mechanical systems in their products (pulleys &amp; cams)</li> <li>Evaluate their ideas and products against own design criteria and consider the views of others to improve work <b>ORACY</b></li> </ul>	<p><b>WWII: Textiles: Create a soldier bag for gas mask boxes</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of functional products that are fit for purpose</li> <li>Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams</li> <li>Select from and use a wider range of tools and equipment to perform practical tasks accurately</li> <li>Select from and use a wider range of materials and components including textiles according to their aesthetic qualities <b>CST</b></li> <li>Understand how key events and individuals in design &amp; technology have helped shape the world <b>CST</b></li> <li>Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>
	Apply understanding of computing to program, monitor and control their products		
Year 5 Cycle (A)	<p><b>North &amp; South: Design &amp; make a model landmark with a mechanism</b></p> <ul style="list-style-type: none"> <li>Investigate and analyse a range of existing products</li> <li>Use research and develop design criteria to inform the design of appealing, functional products that are fit for purpose aimed at particular individuals or groups <b>CST</b></li> </ul>	<p><b>China: Textiles – Design and make a willow pattern cushion (also Art)</b></p> <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups <b>ORACY</b></li> <li>Select from and use a wider range of tools and equipment to perform practical tasks</li> </ul>	<p><b>Chocolate: Cooking &amp; Nutrition – Design and create a chocolate confectionary using CAD</b></p> <ul style="list-style-type: none"> <li>Understand and apply the principles of a healthy &amp; varied diet <b>CST</b></li> <li>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> </ul>

	<ul style="list-style-type: none"> <li>• Select from and use a wider range of materials and components including construction materials and textiles according to their functional properties and aesthetic qualities</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• Understand mechanical systems in their products (pulleys, gears, levers, linkages &amp; cams)</li> <li>• Evaluate their ideas and products against own design criteria and consider the views of others to improve work <b>ORACY</b></li> </ul>	<ul style="list-style-type: none"> <li>• Select from and use a wider range of materials and components including textiles according to their aesthetic qualities</li> <li>• Understand how key events and individuals in design &amp; technology have helped shape the world <b>CST</b></li> <li>• Evaluate their ideas and products against their own design criteria</li> </ul> <p><b>Cooking &amp; Nutrition – Design and create a stir-fry</b></p> <ul style="list-style-type: none"> <li>• Understand and apply the principles of a healthy &amp; varied diet</li> <li>• Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>• Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</li> <li>• Investigate and analyse a range of existing products</li> <li>• Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>• Select from and use a wider range of materials and components (ingredients) according to their functional properties and aesthetic qualities</li> <li>• Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>	<ul style="list-style-type: none"> <li>• Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</li> <li>• Investigate and analyse a range of existing products</li> <li>• Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams using CAD <b>ORACY</b></li> <li>• Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>• Select from and use a wider range of materials and components (ingredients) according to their functional properties and aesthetic qualities</li> <li>• Apply understanding of computing to program, monitor and control products</li> <li>• Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul> <p><b>Electricity:</b> <b>Design and Make an electrical circuit game (Also Science)</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of appealing, functional products that are fit for purpose aimed at particular individuals or groups <b>ORACY</b></li> <li>• Select from and use a wider range of materials and according to their functional properties and aesthetic qualities</li> <li>• Understand and use electrical systems in their products (circuits incorporating witches, bulbs, buzzers &amp; motors)</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• Evaluate their ideas and products against own design criteria and consider the views of others to improve work <b>ORACY</b></li> </ul>
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<p>Year 6 Cycle( B)</p>	<p><b>California:</b> <b>Design &amp; Make shelters using textiles</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of appealing and functional products that are fit for purpose <b>CST</b></li> <li>• Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams <b>ORACY</b></li> <li>• Select from and use a wider range of tools and equipment to perform practical tasks accurately</li> <li>• Understand how key events and individuals in design &amp; technology have helped shape the world</li> <li>• Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>	<p><b>Crime &amp; Punishment:</b> <b>Design and Make Protective casing for Egghead drop</b></p> <ul style="list-style-type: none"> <li>• Generate, develop, model and communicate ideas through discussion, annotated sketches, cross-sectional and exploded diagrams <b>ORACY</b></li> <li>• Select from and use a wider range of materials and components including construction materials and textiles according to their functional properties and aesthetic qualities</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• Evaluate their ideas and products against own design criteria and consider the views of others to improve work <b>ORACY CST</b></li> </ul>	<p><b>International Day:</b> <b>Design and make a dish relating to a given country</b></p> <ul style="list-style-type: none"> <li>• Understand and apply the principles of a healthy &amp; varied diet <b>ORACY</b></li> <li>• Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>• Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed <b>CST</b></li> <li>• Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>• Select from and use a wider range of materials and components (ingredients) according to their functional properties and aesthetic qualities <b>CST</b></li> <li>• Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul> <p><b>The World Cup/ Olympics:</b> <b>Design and make a mascot for a chosen team/nation</b></p> <ul style="list-style-type: none"> <li>• Use research and develop design criteria to inform the design of appealing products that are fit for purpose aimed at particular individuals or groups</li> <li>• Select from and use a wider range of tools and equipment to perform practical tasks</li> <li>• Select from and use a wider range of materials and components including textiles according to their aesthetic qualities</li> <li>• Understand how key events and individuals in design &amp; technology have helped shape the world</li> <li>• Evaluate their ideas and products against their own design criteria <b>ORACY</b></li> </ul>
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