



# St. Oswald's Catholic Primary School – Curriculum Overview 2023\_2024

## Design Technology

	Autumn	Spring	Summer
<b>Nursery</b>	Throughout nursery the children will cover these objectives: <ul style="list-style-type: none"> <li>• Shows control in holding and using jugs to pour, hammers, books and mark-making tools.</li> <li>• Uses one-handed tools and equipment, e.g. makes snips in paper with child scissors.</li> <li>• Uses simple tools to effect changes to materials.</li> <li>• Handles tools, objects, construction and malleable materials safely and with increasing control.</li> <li>• Shows understanding of the need for safety when tackling new challenges, and considers and manages some risks.</li> <li>• Shows understanding of how to transport and store equipment safely.</li> <li>• Practices some appropriate safety measures without direct supervision.</li> <li>• Beginning to be interested in and describe the texture of things.</li> <li>• Uses various construction materials.</li> <li>• Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces.</li> <li>• Joins construction pieces together to build and balance.</li> <li>• Realises tools can be used for a purpose.</li> <li>• Understands that different media can be combined to create new effects.</li> <li>• Manipulates materials to achieve a planned effect.</li> <li>• Constructs with a purpose in mind, using a variety of resources.</li> <li>• Uses simple tools and techniques competently and appropriately.</li> <li>• Selects tools and techniques needed to shape, assemble and join materials they are using.</li> <li>• Uses available resources to create props to support role-play.</li> <li>• Captures experiences and responses with a range of media, such as music, dance and paint and other materials or words.</li> <li>• Create simple representations of events, people and objects.</li> </ul>		
<b>Reception</b>	<ul style="list-style-type: none"> <li>• Children handle equipment and tools effectively, including pencils for writing.</li> <li>• Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe.</li> <li>• Children will talk about their ideas, and will choose the resources they need for their chosen activities.</li> <li>• Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>• Children represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.</li> </ul>		
<b>Year 1</b>	<p><b>Cooking and Nutrition</b> <b>Can you identify where our food comes from?</b></p> <p>Children to research, discover and discuss where our food comes from. Discuss which foods we eat, where they come from, how they are grown etc. Discuss different flavours such as sweet, spicy and savoury.</p> <p>Children will design and make a simple dish (fruit kebab / salad / sandwich) and consider which ingredients they will need to complete this. Children can use illustrations or writing for this.</p> <p>Children will evaluate their dish through peer discussions and record what they liked/disliked.</p>	<p><b>Sliders / movers and levers: Moving Pictures</b> <b>Can you create a moving picture with two mechanisms?</b></p> <p>Children are to explore and research existing products that use sliders and levers, thinking about how they work.</p> <p>Children can draw simple designs, that may include annotations, to plan for their own product. Children are to consider the purpose of their product, what colour, shape and materials they may require. Children are to generate ideas through communication, modelling, drawing and templates.</p> <p>Children are to make a picture that aims to have two moving mechanisms. Use design criteria to help guide the making and evaluation process. Children can select from and use a range of tools and equipment to perform practical tasks, for example cutting, shaping, joining and finishing.</p> <p>Children are to evaluate their final products against their original designs and research.</p>	<p><b>Structures – Windmills.</b> <b>Can you design and construct a 3D model of a windmill?</b></p> <p>Children are to research windmills and discuss the different elements a windmill must have. This research will be used to produce a design-criteria for children to follow throughout the DT process.</p> <p>Children will be able to choose from a variety of materials, including recyclable materials to create their designs.</p> <p>Children are to design a purposeful, functional, appealing product for themselves and other users based on a design-criteria. Children are to generate, develop, model and communicate their ideas through talking, drawing and templates. Children are to build structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Children will evaluate throughout the DT process and evaluate their final products against a provided design-criteria.</p>

<p><b>Year 2</b></p>	<p>Cooking and Nutrition <b>Can you plan and make a healthy meal?</b></p> <p>Children will research the importance of a healthy and varied diet, looking at different food groups and their benefits. Children will further develop their understanding of where food comes from.</p> <p>Children will plan a meal considering their research and discussions, using diagrams, sketches and writing opportunities.</p> <p>Children will prepare and cook their meal using a range of skills, considering which ingredients they will need from their research and plan.</p> <p>Children will evaluate their dish through peer discussions and describe what they liked/disliked.</p>	<p>Construction – mechanical systems: Constructing a model using wheels and axles <b>Can you design, make and evaluate your own moving vehicle?</b></p> <p>Children are to research moving vehicles and how they move, focusing on wheels and axles. Children to explore wheels and axles and how they work.</p> <p>Children are to use their research to plan and design their own moving vehicle, considering functionality. Children can use sketches and diagrams for their designs, ensuring they have included wheels and axles as part of their design.</p> <p>Children are to create their moving vehicles using a variety of materials and to test whether they move effectively across a surface area. Children will build their structures, exploring how they can be made stronger, stiffer and more stable.</p> <p>Children are to evaluate their ideas and products against their design criteria.</p>	<p>Textiles: Puppet Making <b>Can you design and create a puppet and evaluate whether it is fit for purpose?</b></p> <p>Children are to explore, investigate and research a range of puppets and their features. Children can discuss different designs and materials used and how these are effective.</p> <p>Children will be provided with a Design-Criteria following their research to aid them throughout the DT process.</p> <p>Children are to plan their designs, considering which materials they would like to use. Children will create a glove puppet, following their designs. Children can shape textiles using templates and join textiles using a running stitch, or other methods of joining. Children can decorate their products to make them more aesthetically pleasing using a variety of materials.</p> <p>Children will evaluate throughout the DT process and evaluate their final products against a provided design-criteria.</p>
<p><b>Year 3</b></p>	<p>Cooking and Nutrition <b>Can you make a European savoury dish?</b></p> <p>Children will be taught:</p> <ul style="list-style-type: none"> <li>to understand and apply the principles of a healthy and varied diet to prepare and cook a predominantly savoury dish, using a range of cooking techniques</li> <li>to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul> <p>Children will prepare and cook a meal using a range of cooking techniques focusing on European dishes – in preparation for Geography unit in the spring.</p> <p>Children are to evaluate their final product against their original designs, considering flavour and seasonality.</p>	<p>Computer Aided Design (CAD): Making Mini Greenhouses. <b>Can you use a computer programme to design a mini greenhouse?</b></p> <p>Children are to research greenhouses and their function and purpose. Discuss and consider the positive effects greenhouses have on the environment (improve local ecological conditions by increasing vegetation. Plants play a vital role in protecting the global ecosystem). This provides an opportunity to make links with Science topic of plants and recap prior learning.</p> <p>Children are to use a computer programme, Tinker Cad or SketchUp, to design their own mini greenhouse. Challenge children to design a greenhouse from different perspectives (front, side and above.) Children are to consider the features that are needed for a greenhouse to make it functional.</p> <p>Children to evaluate their final designs against their original design criteria and consider what went well and what could be improved next time.</p>	<p>Textiles: Design and make a pencil case fit for purpose <b>Can you design and make a pencil case fit for purpose?</b></p> <p>Children are to research existing products and discuss functionality, purpose and designs. A design-criteria is to be created following research and discussion, which children can follow throughout the DT process.</p> <p>Children are to plan and design a pencil case fit for purpose. Children can design this in a variety of ways including drawn sketches or using CAD.</p> <p>Children are then to make their product following the design criteria and their plan. Children can experiment with various designs and evaluate these. They can choose appropriate decoration for their finished product.</p> <p>Children will be able to practice their stitching skills when joining materials and stitching 2D shapes to make a 3D product. Children are to select from a wide range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) accurately. Children can have a choice of a wide range of materials and components to use to create their product to ensure it is functional and aesthetic.</p> <p>Children will evaluate throughout the DT process and evaluate their final products against their design-criteria, considering the views of others to improve their products.</p>
<p><b>Year 4</b></p>	<p>Cooking and Nutrition <b>Can you make a Mediterranean vegetable dish?</b></p> <p>Children will be taught:</p> <ul style="list-style-type: none"> <li>to understand and apply the principles of a healthy and varied diet to prepare and cook a predominantly savoury dish using a range of cooking techniques</li> <li>to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>	<p>Construction: Levers and linkages <b>Can you design a pop up product using levers and linkages?</b></p> <p>Children are to explore and research existing pop-up products and discuss the mechanisms used, considering the products functionality and purpose. Children are to develop a design-criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Children can design their product in a variety of ways including drawn sketches,</p>	<p>Electrical Systems: Nightlights <b>Can I design and create a nightlight using a computer programme?</b></p> <p>Children are to research existing products and discuss key elements, considering the purpose and target audience. A design-criteria is to be created following research and discussion, which children can follow throughout the DT process.</p> <p>Children can plan their designs to create their own product, considering how to make their product functional, purposeful and</p>

	<p>Children will prepare and cook a Mediterranean meal using a range of cooking techniques focusing on Mediterranean dishes – to support and enhance learning developed during Opening World’s topic ‘The Mediterranean.’</p> <p>Children are to evaluate their final product against their original designs, considering flavour and seasonality.</p>	<p>diagrams or using CAD when applicable to design on a computer programme (this could be Tinker CAD, SketchUp or word).</p> <p>Children will be able to use a variety of techniques and materials to create their product, considering the functional properties and aesthetic qualities. Children to understand and use mechanical systems in their products using levers and linkages.</p> <p>Children to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Children will use their research, plans and design criteria to inform their evaluations.</p>	<p>aesthetically pleasing. Children are to use cross sectional designs as part of their design process.</p> <p>Children will make their nightlights using suitable materials. Children will then use a computer-programming app (Crumble) to create an electrical system for a nightlight, incorporating series circuits and bulbs and will apply their understanding of computing to program, monitor and control their products.</p> <p>Children will evaluate throughout the DT process and evaluate their final products against their design-criteria, considering the views of others to improve their products.</p>
<b>Year 5</b>	<p>Cooking and Nutrition <b>Can you make a savoury African dish?</b></p> <p>Children will be taught:</p> <ul style="list-style-type: none"> <li>to understand and apply the principles of a healthy and varied diet</li> <li>to prepare and cook a predominantly savoury dish using a range of cooking techniques</li> <li>to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul> <p>Children will research African dishes and ingredients, considering how they are grown and the different flavours they provide.</p> <p>Children will prepare and cook a savoury African meal using a range of cooking techniques focusing on African dishes and ingredients.</p> <p>Children are to evaluate their final product against their original designs, considering flavour and seasonality.</p>	<p>Computer Aided Design (CAD): Designing a school quiet garden. <b>Can you use Computer Aided Design (CAD) to design a quiet, prayer garden for our school?</b></p> <p>Children are to consider the different elements a quiet garden would need. Where will this be on our school grounds? Will there be different areas for children to sit, plant vegetables, listen to stories? What materials could we use? What colours will make the quiet garden both aesthetically pleasing but also a calm, peaceful place?</p> <p>Children to research other quiet gardens and discuss what they like/dislike or what they would change.</p> <p>Children can use this research to plan and design their own quiet garden for school. Children will use a computer programme (Tinker CAD or SketchUp) to design using 3D shapes. Children need to consider the size and scale of the garden and each feature they plan to include. Children need to use a variety of features on the Tinker CAD software to create their quiet garden, considering measurements, scale and accuracy. Children are to develop a clear idea of what has to be done through research and planning.</p> <p>Children to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Understand how key events and individuals in design and technology have helped shape the world.</p> <p>Cross-curricular links to RE (prayer garden) and My School My Planet project being carried out in school.</p>	<p>Mechanical Systems: Wishing Wells <b>Can I design and create a wishing well using mechanical systems?</b></p> <p>Children are to research wishing wells and how they work. Children will focus on mechanisms such as pulleys and gears. Children will use this research to create their own design criteria.</p> <p>Children will plan and design their own products against their design criteria, taking opportunities to continually evaluate their progress. Children can design in a variety of ways including CAD and using exploded diagrams.</p> <p>Children will then make their products using a variety of materials and adapting their skills.</p> <p>Children will evaluate throughout the DT process and evaluate their final products against their design-criteria, considering the views of others to improve their products.</p>
<b>Year 6</b>	<p>Cooking and Nutrition <b>Can you make a popular meal from WW2 times?</b></p> <p>Children will be taught:</p> <ul style="list-style-type: none"> <li>to understand and apply the principles of a healthy and varied diet</li> <li>to prepare and cook a predominantly savoury dish using a range of cooking techniques</li> <li>to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul> <p>Children will research ingredients and recipes that were popular in Liverpool during WWII, making links with their history topic.</p> <p>Children will use this research to prepare their recipe, considering flavour and seasonality.</p> <p>Children are to evaluate their final dish, discussing what they like and considering what could be changed or improved next time.</p>	<p>Textiles: Cushion Making <b>Can you design and create a cushion and evaluate whether it is fit for purpose?</b></p> <p>Pupils are to research cushion designs and consider which shape, size, detailing and fabrics they think would be most suitable for their own products. Children can research and discuss different designers including recycled material designers and the benefits that these have (recycling materials is not only a way to reduce waste and environmental impact, but also a source of inspiration and innovation for product design. By using recycled materials, designers can create products that are more durable, functional, aesthetic, and ethical).</p> <p>Children can then use this research to design a purposeful, functional, appealing cushion cover for themselves or other users based on their own design criteria (from product research). Children can design their product in a variety of ways including drawn sketches or using CAD to design on a computer programme (this could be Tinker CAD, SketchUp or Paint).</p> <p>Children to be able to explain their design and the techniques they use. Children to join two pieces of fabric together, using a variety of stitches, and attach</p>	<p>Electrical Systems: Alarms <b>Can you use a computer program to program, monitor and control an alarm?</b></p> <p>Children are to research existing products and discuss key elements, considering the purpose and target audience. Children will create their own design criteria for their products following research and discussion.</p> <p>Children will plan and design their own products against their design criteria, taking opportunities to continually evaluate their progress.</p> <p>Children will use a computer-programming app (Crumble) to create an electrical system for an alarm. Children are to use simple circuits and switches including programming and controlling. Children to understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors). Apply understanding of computing to program, monitor and control their products.</p>

		<p>buttons, beads, and ribbons onto fabric securely (considering purpose, functionality and aesthetics).</p> <p>Children to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Consider whether they have been inspired by the designers they have researched and how this inspiration helped them create their final products.</p>	<p>Children will evaluate throughout the DT process and evaluate their final products against their design-criteria, considering the views of others to improve their products.</p>
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