

# Design and Technology Whole School Overview – 2021-23



This should be used alongside the EYFS Long Term Plan 2021-2022 which breaks down each area of the EYFS and intended learning for each term. Each area of the EYFS is also reflected throughout the continuous provision within the learning environment both inside and outside – this enables children to be independent in their own learning and practice and develop skills taught.

Subject	Area of the EYFS	Key skills/knowledge – <b>What do you want children to know by the end of EYFS (Intent)</b>	How we teach it – <b>Topics / curricular goals (implementation)</b>	Early Learning Goal – <b>Where children will be by the end, the ELGs achieved (impact)</b>
DT	Expressive arts and design.  Physical development.	Develop food preparation skills Use measurements such as 1 cup 1 teaspoon etc Tear, cut and shape a variety of materials Join materials in a variety of ways Think about the design of what they are creating before making Talk about the design after making	Make sandwiches Chop and peel fruit Cooking Design a new chair for baby bear Weekly cutting activity Cards for different occasions – Christmas, Easter, Mothers day etc Construction in a variety of ways	Fine motor skills  Gross motor skills  Creating with materials

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
<b>Year 1 and 2</b>	<b>Year A - Castles</b> <b>Year B - Fire Fire</b>		<b>Year A - Back to the future</b> <b>Year B – Welcome to the UK</b>		<b>Year A - Journeys and explorers</b> <b>Year B - Animals</b>		
	<b>Structures of castles/houses</b> – build structures, exploring how they can be made stronger, stiffer and more stable  <ul style="list-style-type: none"> <li>• Use materials to practise drilling, screwing, glueing and nailing materials to make and strengthen products</li> <li>• Cut materials safely using tools provided</li> <li>• Measure and mark out the the nearest cm (Year 2)</li> <li>• Demonstrate a range of joining techniques</li> <li>• Make products refining the design as work progresses</li> <li>• Suggest improvements to existing design</li> </ul>		<b>Mechanics</b> - explore and use mechanisms, such as levers, sliders, wheels and axels  <ul style="list-style-type: none"> <li>• Expel objects and designs to identify likes and dislikes of the designs</li> <li>• Create products using levers, wheels and winding mechanisms</li> <li>• Design products that have a clear purpose and an intended user</li> <li>• Demonstrate a range of cutting and shaping techniques</li> <li>• Demonstrate a range of joining techniques</li> <li>• Diagnose faults in battery operated devices</li> </ul>		<b>Back to the future</b> <b>Digital Media (Link to Computing curriculum)</b> <b>Textiles (link to Art curriculum)</b>  <ul style="list-style-type: none"> <li>• Model designs using software</li> <li>• Explore how products have been created</li> <li>• Shape textiles using templates</li> <li>• Join textiles using running stitch</li> <li>• Colour and decorate textiles using a number of techniques</li> </ul>		<b>Cooking and nutrition</b> – use knowledge of healthy diet (from Autumn term PSHE) to prepare dishes. Understand where food comes from  <ul style="list-style-type: none"> <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> </ul>

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Year 3 and 4	<b>Year A - Ancient Civilisations</b> <b>Year B - Invasions</b>		<b>Year A - Our Changing World</b> <b>Year B – The Blue Planet</b>		<b>Year A – Survival</b> <b>Year B – Kings, Queens and Castles</b>	
	<p><b>Electronics</b> – understand and use electrical systems in their products, such as series circuits (yr4)</p> <p><b>Construction</b> – understand and use mechanical systems in their products such as pulleys, levers and linkages(yr3)</p> <ul style="list-style-type: none"> <li>• Create series and parallel circuits (yr4)</li> <li>• Choose suitable techniques to construct products (yr 3)</li> <li>• Strengthen materials using suitable techniques (yr3)</li> <li>• Refine work and techniques as work progresses, continually evaluating the product design</li> <li>• Identify some of the great designers to generate ideas for design</li> <li>• Disassemble products to understand how they work</li> </ul>		<p><b>Materials (linked through art)</b>  <b>Textiles (linked through art)</b></p> <ul style="list-style-type: none"> <li>• Cut materials accurately and safely by selecting and appropriate tools</li> <li>• Measure and mark out to the nearest millimetre</li> <li>• Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material</li> <li>• Select appropriate joining techniques</li> <li>• Understand the need for a seam allowance</li> <li>• Join textiles with appropriate stitching</li> <li>• Select the most appropriate technique to decorate textiles</li> <li>• Improve upon existing designs, giving reasons for choices</li> <li>• Identify some of the great designers to generate ideas for design</li> </ul>		<p><b>Food/Cooking - One pot food (Year A) Pastries (Year B)</b> prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques ( Understand and apply the principles of a healthy and varied diet (revise from Autumn PSHE)</p> <p><b>Structures/Mechanics: Dens (Year A) Bridges(Year B)</b> apply their understanding of how to strength, stiffen and reinforce more complex structures – <b>forest school</b></p> <p><b>Computing</b> – apply their understanding of computing to programme, monitor and control their products (linked with Computing curriculum)</p> <ul style="list-style-type: none"> <li>• Prepare ingredients hygienically using appropriate utensils</li> <li>• Measure ingredients to the nearest gram accurately</li> <li>• Follow a recipe</li> <li>• Assemble or cook ingredients</li> <li>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product</li> <li>• Control and monitor models using software designed for this purpose</li> <li>• Use software to design and represent product designs</li> <li>• Design with purpose by identifying opportunities to design</li> <li>• Identify some of the great horticultural pioneers in design</li> </ul>	

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5 and 6	<b>Year A – Mexico</b> <b>Year B – WWI/WWII</b>		<b>Year A - Marvellous Muggles</b> <b>Year B – Reach for the Stars</b>		<b>Year A - A place I call Home</b> <b>Year B - Kingdoms</b>	
	<p><b>Structures/Construction – earthquakes/ Anderson shelter</b> apply their understanding of how to strength, stiffen and reinforce more complex structures</p> <p><b>Mechanics</b> - use mechanical systems in their products such as <i>gears, pulleys, cams, levers and linkages (revise)</i></p> <p><b>Food</b> – understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed</p> <ul style="list-style-type: none"> <li>• Cut materials with precision and refine the finish with appropriate tools</li> <li>• Develop a range of practical skills to create products such as cutting, drilling, screwing, nailing, gluing etc</li> <li>• Convert rotary motion to linear using cams (yr5) – <b>through Science</b></li> <li>• Design with the user in mind, motivated by the service a product will offer</li> <li>• Make products through stages of prototypes, making continual refinements</li> <li>• Create innovative designs that improve upon existing products</li> <li>• Evaluate the design of products so as to suggest improvements to the user experience</li> </ul>		<p><b>Food</b> – prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand and apply the principles of a healthy and varied diet (revise from Autumn PSHE)</p> <p><b>Electronics (Year A)</b> - understand and use electrical systems in their products, such as series circuits</p> <ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients</li> <li>• Measure accurately and calculate ratios of ingredients to scale up or scale down from a recipe</li> <li>• Demonstrate a range of cooking and baking techniques</li> <li>• Create and refine recipes, including ingredients, methods, cooking times and temperatures</li> <li>• Create circuits using electronics kits that employ a number of components</li> <li>• Use innovative combinations of electronics and mechanics in product designs</li> </ul>		<p><b>Computing</b> - apply their understanding of computing to programme, monitor and control their products (linked with Computing curriculum)</p> <p><b>Textiles</b></p> <ul style="list-style-type: none"> <li>• Show an understanding of the qualities of materials to choose appropriate tools to cut and shape</li> <li>• Create objects such as a cushion that employ a seam allowance</li> <li>• Join textiles with a combination of stitching techniques</li> <li>• Use the qualities of materials to create suitable visual and tactile effects in the decoration</li> <li>• Write code to control and monitor models or products</li> <li>• Use prototypes, cross sectional diagrams and computer aided designs</li> <li>• Ensure products have a high quality finish using art skills where required</li> <li>• Combine elements of design from a range of inspirational designers throughout history giving reasons for choice</li> </ul>	