

Design Technology

Early Years: Personal, Social and Emotional Development & Physical Development & Understanding the World & Expressive Arts and Design

<u>3 & 4-year-olds will be learning to:</u>		<u>Children in Reception will be learning to:</u>		<u>ELG:</u>	
<p>Personal, Social and Emotional Development:</p> <ul style="list-style-type: none"> • Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them <p>Physical Development:</p> <ul style="list-style-type: none"> • Choose the right resources to carry out their own plan. • Use one-handed tools and equipment, for example, making snips in paper with scissors. <p>Understanding the World:</p> <ul style="list-style-type: none"> • Explore how things work <p>Expressive Arts and Design:</p> <ul style="list-style-type: none"> • Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects. 		<p>Physical Development:</p> <ul style="list-style-type: none"> • Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. <p>Expressive Arts and Design:</p> <ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. 		<p>Physical Development: Fine Motor Skills:</p> <ul style="list-style-type: none"> • Use a range of small tools, including scissors, paintbrushes and cutlery. <p>Expressive Arts and Design: Creating with Materials:</p> <ul style="list-style-type: none"> • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. 	
Materials	Textiles	Electricals	Construction	Mechanics	Food
Beginning to be interested in and describe the texture of things. Realises tools can be used for a purpose. Understands that different media can be combined to create new effects. Beginning to explore a range of cutting and shaping techniques (such as tearing, cutting and folding).	Explores a range of textiles and offers their opinions and preferences on their colour/texture etc. Explore with textiles in their play.	Appropriate use of electrical equipment such as torches and battery operated toys	Understands that they can use lines to enclose a space, and then begin to use these shapes to represent objects. Uses various different construction materials. Beginning to construct , stacking blocks vertically and horizontally, making enclosures and creating spaces. Joins construction pieces together to build and balance. Constructs with a purpose in mind, using a variety of resources.	Explore with different types of attaching materials e.g. glue, tape, string	Understand essential hygiene requirements when working with food. Expressing preferences regarding food. Participate in small group cooking experiences.

D&T Non-negotiables:

- EYFS will have an Expressive Arts A3 portfolio with examples of pupils taught skills that are annotated with pupil voice and pictures

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Developing, planning and communicating ideas.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Draw on their own experience to help generate ideas</p> <p>Suggest ideas and explain what they are going to do</p> <p>Identify a target group for what they intend to design and make</p> <p>Model their ideas in card and paper</p> <p>Develop their design ideas applying findings from their earlier research</p>	<p>Generate ideas by drawing on their own and other people's experiences</p> <p>Develop their design ideas through discussion, observation, drawing and modelling</p> <p>Identify a purpose for what they intend to design and make</p> <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p>	<p>Generate ideas for an item, considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product</p> <p>Plan the order of their work before starting</p> <p>Explore, develop and communicate design proposals by modelling ideas</p> <p>Make drawings with labels when designing</p> <p>Explain how inventions have changed the world.</p>	<p>Generate ideas, considering the purposes for which they are designing</p> <p>Make labelled drawings from different views showing specific features</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail</p> <p>Evaluate products and identify criteria that can be used for their own designs</p>	<p>Generate ideas through brainstorming and identify a purpose for their product Draw up a specification for their design</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Explain how inventions have changed the world.</p>	<p>Communicate their ideas through detailed labelled drawings</p> <p>Develop a design specification</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p>

Evaluating processes and products

<p>Evaluate their product by discussing how well it works in relation to the purpose</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Evaluate their product by asking questions about what they have made and how they have gone about it</p>	<p>Evaluate against their design criteria</p> <p>Evaluate their products as they are developed, identifying strengths and possible changes they might make</p> <p>Talk about their ideas, saying what they like and dislike about them</p>	<p>Evaluate their product against original design criteria e.g. how well it meets its intended purpose</p> <p>Disassemble and evaluate familiar products</p>	<p>Evaluate their work both during and at the end of the assignment</p> <p>Evaluate their products carrying out appropriate tests</p>	<p>Evaluate a product against the original design specification</p> <p>Evaluate it personally and seek evaluation from others</p>	<p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>
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Design Technology

Materials

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<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>Measure and mark out to nearest cm.</p> <p>Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).</p>	<p>Cut materials accurately and safely by selecting appropriate tools.</p> <p>Select appropriate joining techniques.</p>	<p>Measure and mark out to nearest mm.</p> <p>Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (slots, cut outs)</p>	<p>Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or to create a more precise shape)</p>	<p>Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than to cut paper)</p>

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Textiles

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Shape and explore textiles.</p> <p>Join textiles using running stitch.</p> <p>Colour and decorate textiles using a number of techniques</p>		<p>Understand the need for seam allowance.</p> <p>Join textiles with appropriate stitching.</p> <p>Use applique to add detail.</p>	<p>Create objects such as a cushion that employ a seam allowance.</p> <p>Join textiles with a combination of stitching techniques.</p> <p>Sew a hem.</p> <p>Join two pieces of fabric by hand</p>	

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Electricals

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		<p>Create simple and series circuits.</p> <p>Create circuits using electronics kits that employ a number of components such as LEDS resistors transistors and chips</p>			<p>Create circuits with increasing confidence using electronics kits that employ a number of components</p>



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Construction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.</p> <p>Explore and evaluate materials for structural stability.</p>		<p>Choose suitable techniques to construct products or to repair items</p>	<p>Strengthen materials using suitable techniques</p> <p>Experiment with a range of materials and test for suitability</p>	<p>Develop a range of practical skills to create products (eg cutting, drilling, screwing, nailing, sanding, gluing)</p>	<p>Develop a range of practical skills to create products</p>

Design Technology

Mechanics

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Create products using levers sliders, pivots and wheels</p>	<p>Create products using axles, wheels and chassis.</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>Explore transmissions for movements</p> <p>Use a crank to change motion from linear to circular</p>	

Design Technology

Food

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Cut ingredients safely and hygienically.</p> <p>Wash, assemble or cook ingredients.</p>	<p>Cut, peel or grate ingredients safely and hygienically.</p> <p>Measure or weigh using measuring cups or electronic scales.</p>	<p>Prepare ingredients hygienically using appropriate utensils.</p> <p>Measure accurately</p> <p>Follow a recipe</p> <p>Assemble or cook ingredients</p>			<p>Measure accurately and calculate ratios of ingredients to scale up or down from recipe</p> <p>Create and refine recipes including ingredients, methods, cooking times and temperatures</p> <p>Understand about nutrition labelling for choices</p>