

# Design and Technology Progression Milestones



Key Concepts	Pre-Milestone 1 (EYFS)		Milestone 1 (Year 1 & 2)	Milestone 2 (Year 3 & 4)	Milestone 3 (Year 5 & 6)
<b>Master Practical Skills</b>  This concept involves developing the skills needed to make high quality products	Food	<b>ELG – Physical Development – Fine Motor Skills</b> <ul style="list-style-type: none"> <li>• Use a range of small tools, including scissors, paintbrushes and cutlery.</li> </ul> <b>ELG – PSED</b> <ul style="list-style-type: none"> <li>• Manage their own basic hygiene and personal needs...including understanding the importance of healthy food choices.</li> </ul> <b>DM – Physical Development</b> <ul style="list-style-type: none"> <li>• Develop their small motor skills so they can use a range of tools competently, safely and confidently.</li> </ul>	<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>	<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 (controlling the temperature of the oven or hob, if cooking).</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</li> <li>• Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>• Demonstrate a range of baking and cooking techniques.</li> <li>• Create and refine recipes, including ingredients, methods, cooking times and temperatures.</li> </ul>
	Materials	<b>ELG – Physical Development – Fine Motor Skills</b> <ul style="list-style-type: none"> <li>• Begin to show accuracy and care when drawing.</li> </ul> <b>ELG – PSED</b> <ul style="list-style-type: none"> <li>• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</li> </ul> <b>ELG – Expressive Arts and Design</b> <ul style="list-style-type: none"> <li>• Safely use and explore a variety of materials, tools and techniques</li> <li>• Share their creations, explaining the process they have used</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials safely using tools provided.</li> <li>• Measure and mark out to the nearest centimetre.</li> <li>• Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).</li> <li>• Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials accurately and safely by selecting 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 (such as slots or cut outs).</li> <li>• Select appropriate joining techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).</li> <li>• Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).</li> </ul>

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<b>Master Practical Skills</b>  This concept involves developing the skills needed to make high quality products	Textiles	<p><b>ELG – Physical Development – Fine Motor Skills</b></p> <ul style="list-style-type: none"> <li>• Use a range of small tools, including scissors, paintbrushes and cutlery.</li> </ul> <p><b>ELG – Expressive Arts and Design</b></p> <ul style="list-style-type: none"> <li>• Safely use and explore a variety of materials, tools and techniques</li> <li>• Share their creations, explaining the process they have used</li> </ul> <p><b>DM – Physical Development</b></p> <ul style="list-style-type: none"> <li>• Develop their small motor skills so they can use a range of tools competently, safely and confidently</li> </ul>	<ul style="list-style-type: none"> <li>• Shape textiles using templates.</li> <li>• Join textiles using running stitch.</li> <li>• Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the need for a seam allowance.</li> <li>• Join textiles with appropriate stitching.</li> <li>• Select the most appropriate techniques to decorate textiles.</li> </ul>	<ul style="list-style-type: none"> <li>• Create objects (such as a cushion) that employ a seam allowance.</li> <li>• Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).</li> <li>• Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion)</li> </ul>
	Electrical and Electronics	<p><b>ELG – Communication &amp; Language</b></p> <ul style="list-style-type: none"> <li>• Listen attentively and respond to what they hear with relevant questions, comments and actions...”</li> <li>• Ask questions to clarify their understanding</li> </ul> <p><b>ELG – Understanding the World</b></p> <ul style="list-style-type: none"> <li>• Make sense of their physical world and their community</li> <li>• Understand some important processes and changes in the natural world around them</li> </ul> <p><b>DM – PSED</b></p> <ul style="list-style-type: none"> <li>• Show resilience and perseverance in the face of challenge.</li> </ul>	<ul style="list-style-type: none"> <li>• Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).</li> </ul>	<ul style="list-style-type: none"> <li>• Create series and parallel circuits</li> </ul>	<ul style="list-style-type: none"> <li>• Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).</li> </ul>

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<b>Master Practical Skills</b>  This concept involves developing the skills needed to make high quality products	Computing	<b>ELG – Communication and Language</b> <ul style="list-style-type: none"> <li>Participate in small group, class and one-to-one discussions, offering their own ideas</li> <li>Offer explanations for why things might happen</li> </ul> <b>DM – Understanding the World</b> <ul style="list-style-type: none"> <li>Explore the natural world around them.</li> </ul>	<ul style="list-style-type: none"> <li>Model designs using software.</li> </ul>	<ul style="list-style-type: none"> <li>Model designs using software.</li> </ul>	<ul style="list-style-type: none"> <li>Write code to control and monitor models or products.</li> </ul>
	Construction	<b>ELG – Physical Development – Gross Motor Skills</b> <ul style="list-style-type: none"> <li>Negotiate space and obstacles safely, with consideration for themselves and others</li> </ul> <b>ELG – EAD</b> <ul style="list-style-type: none"> <li>Safely use and explore a variety of materials, tools and techniques</li> <li>Share their creations, explaining the process they have used.</li> </ul> <b>DM – EAD</b> <ul style="list-style-type: none"> <li>Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>Create collaboratively, sharing ideas, resources and skills</li> </ul>	<ul style="list-style-type: none"> <li>Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products</li> </ul>	<ul style="list-style-type: none"> <li>Choose suitable techniques to construct products or to repair items.</li> <li>Strengthen materials using suitable techniques.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).</li> </ul>
	Mechanics	<b>ELG – Communication and Language</b> <ul style="list-style-type: none"> <li>Listen attentively and respond with relevant questions, comments and actions</li> <li>Ask questions to clarify their understanding. Offer explanations for why things might happen</li> <li>Express their ideas and feelings about their experiences using full sentences</li> </ul>	<ul style="list-style-type: none"> <li>Create products using levers, wheels and winding mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).</li> </ul>	<ul style="list-style-type: none"> <li>Convert rotary motion to linear using cams.</li> <li>Use innovative combinations of electronics (or computing) and mechanics in product designs.</li> </ul>

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<p><b>Design, make, evaluate and improve</b></p> <p>This concept involves developing the process of design thinking and seeing design as a process.</p>	<p><b>ELG – Communication and Language</b></p> <ul style="list-style-type: none"> <li>• Hold conversation when engaged in back-and-forth exchanges</li> </ul> <p><b>ELG – PSED</b></p> <ul style="list-style-type: none"> <li>• Be confident to try new activities and show independence, resilience and perseverance in the face of challenge</li> <li>• Set and work towards simple goals</li> </ul> <p><b>ELG – EAD</b></p> <ul style="list-style-type: none"> <li>• Share their creations, explaining the process they have used</li> </ul> <p><b>DM – Communication and Language</b></p> <ul style="list-style-type: none"> <li>• Articulate their ideas and thoughts in well-formed sentences</li> </ul> <p><b>DM – EAD</b></p> <ul style="list-style-type: none"> <li>• Create collaboratively, sharing ideas, resources and skills</li> </ul>	<ul style="list-style-type: none"> <li>• Design products that have a clear purpose and an intended user.</li> <li>• Make products, refining the design as work progresses.</li> <li>• Use software to design.</li> </ul>	<ul style="list-style-type: none"> <li>• Design with purpose by identifying opportunities to design.</li> <li>• Make products by working efficiently (such as by carefully selecting materials).</li> <li>• Refine work and techniques as work progresses, continually evaluating the product design.</li> <li>• Use software to design and represent product designs.</li> </ul>	<ul style="list-style-type: none"> <li>• Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</li> <li>• Make products through stages of prototypes, making continual refinements.</li> <li>• Ensure products have a high-quality finish, using art skills where appropriate.</li> <li>• Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.</li> </ul>
<p><b>Take inspiration from design throughout history</b></p> <p>This concept involves appreciating the design process that has influenced the products we use in everyday life.</p>	<p><b>ELG – Communication and Language</b></p> <ul style="list-style-type: none"> <li>• Offer explanations for why things might happen</li> <li>• Express their ideas and feelings about their experiences using full sentences</li> </ul> <p><b>ELG – Understanding the World</b></p> <ul style="list-style-type: none"> <li>• Make sense of their physical world and their community</li> <li>• Know some similarities and differences between things in the past and now</li> </ul> <p><b>DM – Communication and Language</b></p> <ul style="list-style-type: none"> <li>• Articulate their ideas and thoughts in well-formed sentences</li> </ul>	<ul style="list-style-type: none"> <li>• Explore objects and designs to identify likes and dislikes of the designs.</li> <li>• Suggest improvements to existing designs.</li> <li>• Explore how products have been created.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.</li> <li>• Improve upon existing designs, giving reasons for choices.</li> <li>• Disassemble products to understand how they work.</li> </ul>	<ul style="list-style-type: none"> <li>• Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</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>