



# Design and Technology Progression and Skills Document



| Reception  |        | Year One  | Year Two   | End of Key Stage Expectations  |
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| <p><b>Within the Reception year:</b></p> <p>Return to and build on their previous learning. Refining ideas and developing their ability to represent them.</p> <p>Create collaboratively, sharing ideas, resources and skills.</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently. e.g. pencils for drawing and writing, paintbrushes, scissors, knives forks and spoons.</p> <p><b>Early Learning Goals</b></p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery.</p> | Design | <p>Begin to explore how products have been created.</p> <p>Design products that have a clear purpose and an intended user with support.</p> <p>Make simple diagrams to show my design.</p> <p>Develop design criteria with a group.</p> | <p>Explore how products have been created.</p> <p>Design products that have a clear purpose and an intended user.</p> <p>Draw diagrams to show a design.</p> <p>Develop own design criteria.</p> | <ul style="list-style-type: none"> <li>• Design purposeful. Functional, appealing products for themselves and other users based on a design criteria.</li> <li>• Generate, develop, model and communicate their ideas through talking, drawing templates, mock ups and where appropriate, information and communication technology.</li> </ul> |



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|  | Make | <p>Cut safely using tools provided.</p> <p>Begin to demonstrate a range of cutting and shaping techniques such as tearing, cutting and folding.</p> <p>Begin to demonstrate a range of joining techniques such as gluing and combining materials to strengthen.</p> <p>Begin to create products using levers.</p> <p>Begin to refine the design as work progresses.</p> <p>Begin to choose the right materials for making a product according to the properties needed.</p> | <p>Cut materials safely using tools provided.</p> <p>Measure and mark out to the nearest centimetre.</p> <p>Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling.</p> <p>Demonstrate a range of joining techniques such as gluing, hinges, or combining materials to strengthen.</p> <p>Join textiles using running stitch.</p> <p>Create products using levers, wheels and axles.</p> <p>Refine the design as work progresses.</p> <p>Choose the right materials for making a product according to the properties needed.</p> | <ul style="list-style-type: none"><li>• Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li><li>• Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</li></ul> |
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|  | Evaluate            | <p>Begin to explore objects to identify likes and dislikes of the designs.</p> <p>Begin to suggest improvements to existing designs.</p> <p>Evaluate a design or product against given design criteria.</p> <p>Begin to show an understanding of how historical events or people have helped shape the technological world today.</p> | <p>Explore objects to identify likes and dislikes of the designs.</p> <p>Suggest improvements to existing designs.</p> <p>Evaluate design or product against design criteria.</p>                                      | <ul style="list-style-type: none"><li>• Explore and evaluate a range of existing products.</li><li>• Evaluate their ideas and products against design criteria.</li></ul>   |
|  | Technical Knowledge | <p>Beginning to use knowledge of materials and their properties to strengthen, stiffen or reinforce products.</p> <p>Develop an understanding of how to use mechanical systems like levers, pivots and sliders.</p>   | <p>Use knowledge of materials and their properties to strengthen, stiffen or reinforce products.</p> <p>Understand and use mechanical systems like gears, pulleys, levers and linkages in my designs and products?</p> | <ul style="list-style-type: none"><li>• Build structures, exploring how they can be made stronger, stiffer and more stable.</li><li>• Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products</li></ul> |



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|  | <p style="text-align: center;">Cooking and Nutrition</p> <p>Begin to talk about how to be healthy.</p> <p>Begin to show understanding of a varied diet.</p> <p>Show some understanding about where different foods come from.</p> <p>Cut, peel or grate ingredients safely and hygienically with some support.</p> <p>Begin to measure or weigh using measuring cups or scales.</p> <p>Begin to assemble or cook ingredients.</p> <p>Show some understanding of safety when cooking ingredients.</p> | <p>Talk about how to be healthy.</p> <p>Show understanding of a varied diet.</p> <p>Talk about where different foods come from.</p> <p>Cut, peel or grate ingredients safely and hygienically.</p> <p>Measure or weigh using measuring cups or scales.</p> <p>Assemble or cook ingredients.</p> <p>Show understanding of safety when cooking ingredients.</p> | <ul style="list-style-type: none"><li>• Use the basic principles of a healthy and varied diet.</li><li>• Understand where food comes from.</li></ul> |
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# Design and Technology Progression and Skills Document



|        | Year Three  | Year Four  | Year Five   | Year Six   | End of Key Stage Expectations   |
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| Design | <p>Show that my design meets a range of requirements.</p> <p>Put together a plan which shows the equipment and tools I need.</p> <p>Describe a design using an accurately labelled diagram.</p> | <p>Design with purpose by identifying opportunities to design.</p>   | <p>Come up with a range of ideas after the information collecting stage.</p> <p>Take a user's view into account when designing.</p> <p>Use cross sectional planning to show my design.</p>      | <p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <p>Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.</p> <p>Create innovative designs that improve upon existing products.</p> | <ul style="list-style-type: none"> <li>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</li> <li>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> |
| Make   | <p>Use a range of tools and equipment accurately.</p> <p>Measure, mark out, assemble and join materials and components with some accuracy.</p>  | <p>Cut materials accurately and safely by selecting appropriate tools.</p> <p>Measure and mark out to the nearest millimetre.</p> <p>Understand the need for a seam allowance.</p> <p>Join textiles with appropriate stitching.</p> <p>Make products by working efficiently (e.g. by carefully selecting materials)?</p> | <p>Cut materials more accurately.</p> <p>Ensure a product has a seam allowance.</p> <p>Join textiles efficiently using a simple stitch.</p> <p>Use a range of tools and equipment expertly.</p> | <p>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).</p>   | <ul style="list-style-type: none"> <li>Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.</li> <li>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</li> </ul>                     |



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| Evaluate | <p>Look at products and talk about how they work.</p> <p>Practise my evaluation skills by evaluating existing products.</p> <p>Evaluate my own products.</p> <p>Suggest a change that could be made to improve a product.</p> | <p>Improve upon existing designs, giving reasons for choices.</p> <p>Identify some of the great designers in all of the areas of study to generate ideas for designs.</p> | <p>Test and evaluate my final product.</p> <p>Evaluate the design to suggest improvements, considering the materials and methods that have been used.</p> <p>Can I evaluate the appearance and function against the original criteria.</p> <p>Explain how a product will appeal to the audience.</p> <p>Think about the aesthetic qualities of work.</p> <p>Think about the functionality of work produced.</p> | <p>Make products through stages of prototypes, making continual refinements.</p> <p>Ensure products have a high quality finish, using art skills where appropriate.</p> <p>Evaluate the design of products so as to suggest improvements to the user experience.</p> | <ul style="list-style-type: none"><li>• Investigate and analyse a range of existing products.</li><li>• Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li><li>• Understand how key events and individuals in design and technology have helped shape the world.</li></ul> |
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| Technical Knowledge |  | <p>Select appropriate joining techniques.</p> <p>Select the most appropriate techniques to decorate textiles.</p> | <p>Choose appropriate tools to cut, shape and justify choices with my knowledge (such as the nature of fabric may require sharper scissors than would be used to cut paper).</p> <p>Begin to use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles.</p> <p>Can I write code to control and monitor models or products.</p> | <p>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).</p> <p>Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).</p> <p>Use innovative combinations of electronics (or computing) and mechanics in product designs.</p> | <ul style="list-style-type: none"><li>• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</li><li>• Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).</li><li>• Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors).</li><li>• Apply their understanding of computing to program, monitor and control their products.</li></ul> |
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| Cooking and Nutrition | <p>Choose the right ingredients for a product.</p> <p>Say what to do to be hygienic and safe.</p> <p>Use equipment safely.</p> <p>Make sure that product looks attractive.</p> <p>Describe how my combined ingredients come together.</p> | <p>Prepare ingredients hygienically using appropriate utensils.</p> <p>Measure ingredients to the nearest gram accurately.</p> <p>Follow a recipe.</p> |  | <p>Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).</p> <p>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</p> <p>Demonstrate a range of baking and cooking techniques.</p> <p>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</p> | <ul style="list-style-type: none"><li>• Understand and apply the principles of a healthy and 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></ul> |
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