

## Key Skills Progression Document Design and technology

NC D and T - pupils will be taught to:	Year 1	Year 2	
Understand vocabulary that relates to :			
<p><b>Design</b></p> <ul style="list-style-type: none"> <li>❖ Design purposeful, functional, appealing products for themselves and other users based on design criteria.</li> <li>❖ Generate, develop, model and communicate their ideas</li> </ul>	<ul style="list-style-type: none"> <li>• Draw on their own experiences to help generate ideas</li> <li>• Suggest ideas and explain what they are going to do.</li> <li>• Identify a target group for what they intend to design and make.</li> <li>• Model their ideas in card and paper.</li> <li>• Develop their design ideas applying findings from their earlier research.</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas by drawing on their own and other people's experiences.</li> <li>• Develop their design ideas through discussion. Observation and modelling.</li> <li>• Identify a purpose for what they intend to design and make.</li> <li>• Make simple drawings and label parts.</li> </ul>	

through talking, drawing templates, mock-ups and, where appropriate, information and communication technology.			
<p><b>Make(including food)</b></p> <ul style="list-style-type: none"> <li>❖ Select from and use a range of tools and equipment to perform practical tasks e.g. cutting, shaping, joining and finishing.</li> </ul>	<ul style="list-style-type: none"> <li>• Make and design using appropriate techniques.</li> <li>• With help measure, mark out, cut and shape a range of materials.</li> <li>• With help, measure, mark out, cut and shape a range of materials.</li> <li>• Use tools e.g. scissors and a hole punch safely.</li> <li>• Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape.</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to select tools and materials; use the vocabulary to name and describe them.</li> <li>• Measure, cut and score with some accuracy.</li> <li>• Use hand tools safely and appropriately.</li> <li>• Assemble, join and combine materials in order to make a product.</li> <li>• Cut, shape and join fabric to make a simple garment. Use basic sewing techniques.</li> <li>• Follow safe procedures for food safety and hygiene.</li> </ul>	

<ul style="list-style-type: none"> <li>❖ Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>• Select and use appropriate fruit and vegetables, processes and tools.</li> <li>• Use basic food handling, hygienic practices and personal hygiene.</li> <li>• Use simple finishing techniques to improve the appearance of their product.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose and use appropriate finishing techniques.</li> </ul>	
<p><b>Evaluate</b></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>	<ul style="list-style-type: none"> <li>• Evaluate their product by discussing how well it works in relation to the purpose.</li> <li>• Evaluate their produce as they are developed, identifying strengths and possible changes they might make.</li> <li>• Evaluate their product by asking questions about what they have made and how they have gone about it.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate against their design criteria.</li> <li>• Evaluate their products as they are developed, identifying strengths and possible changes they might make.</li> <li>• Talk about their ideas, saying what they like and dislike about them.</li> </ul>	

<p>Technical Knowledge</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 e.g. levers, sliders, wheels and axles in their products.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand about the simple working characteristics of materials and components</li> <li>• Understand about the movement of simple mechanisms including levers, sliders</li> </ul>	<ul style="list-style-type: none"> <li>• Understand about the simple working characteristics of materials and components</li> <li>• Understand about the movement of simple mechanisms including wheels and axles</li> <li>• Understand that food ingredients should be combined according to their sensory characteristics</li> <li>• Know the correct technical vocabulary for the projects they are undertaking</li> <li>• Understand how freestanding structures can be made stronger, stiffer and more stable</li> </ul>	
<p>Cooking and Nutrition</p> <ul style="list-style-type: none"> <li>❖ Use the basic principles of a healthy and varied diet to prepare dishes.</li> </ul>	<p>Know where food comes from. Prepare simple dishes safely and hygienically without using a hot source.</p>	<p>Know where food comes from. Use appropriate equipment to weigh and measure ingredients. Prepare simple dishes safely and hygienically without using heat sources. Use techniques such as cutting.</p>	

❖ Understand where food comes from.		Name and sort food into five groups of the “eat well” plate. Know that everyone should eat at least five portions of fruit and vegetable every day.	
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NC D and T - pupils should be taught to:	Year 3	Year 4	Year 5	Year 6
<b>Design</b> ❖ 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.	<ul style="list-style-type: none"> <li>• Generate ideas for an item, considering its purpose and the user/s</li> <li>• Identify a purpose and establish a criteria for a successful product.</li> <li>• Plan the order of their work before starting.</li> <li>• Explore, develop and communicate design</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas, considering the purposes for which they are designing.</li> <li>• Make labelled drawings from different views showing specific features.</li> <li>• Develop a clear idea of what has to be done, planning how to use materials, equipment and</li> </ul>	<ul style="list-style-type: none"> <li>• Generate ideas through brainstorming and identify a purpose for their product.</li> <li>• Draw up a specification for their design.</li> <li>• Develop a clear idea of what has to be done, planning to use materials, equipment and processes and suggesting</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate their ideas through detailed labelled drawings.</li> <li>• Develop a design specification.</li> <li>• Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways.</li> <li>• Plan the order of their work, choosing appropriate</li> </ul>

	<p>proposals by modelling ideas.</p> <ul style="list-style-type: none"> <li>• Make drawings with labels when designing.</li> </ul>	<p>processes and suggesting alternative methods of making, if the first attempt fails.</p> <ul style="list-style-type: none"> <li>• Evaluate products and identify criteria that can be used for their own designs.</li> </ul>	<p>alternative methods of making if the first attempt fails.</p> <ul style="list-style-type: none"> <li>• Use results of investigations, information sources, including ICT when developing design ideas.</li> </ul>	<p>materials, tools and techniques.</p>
<p><b>Make (including food)</b></p> <ul style="list-style-type: none"> <li>❖ Select from and use a wider range of tools and equipment to perform tasks e.g. cutting, shaping, joining and finishing accurately.</li> </ul>	<ul style="list-style-type: none"> <li>• Make their design using appropriate techniques.</li> <li>• With help, measure, mark out, cut and shape a range of materials.</li> <li>• Use tools e.g. scissors and a hole punch safely.</li> <li>• Assemble, join and combine</li> </ul>	<ul style="list-style-type: none"> <li>• Begin to select tools and materials; use vocabulary to name and describe them.</li> <li>• Measure, cut and score with some accuracy.</li> <li>• Use hand tools safely and appropriately.</li> <li>• Assemble, join and combine materials in</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools and techniques.</li> <li>• Measure and mark accurately.</li> <li>• Use skills in using different tools and equipment safely and accurately.</li> <li>• Weigh and measure</li> </ul>	<ul style="list-style-type: none"> <li>• Select appropriate tools, materials, components and techniques.</li> <li>• Assemble components to make working models.</li> <li>• Use tools safely and accurately.</li> <li>• Construct products using permanent joining techniques.</li> </ul>

<p>❖ Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional purpose.</p>	<p>materials and components together using a variety of temporary methods e.g. glues or masking tape.</p> <ul style="list-style-type: none"> <li>• Select and use appropriate fruit and vegetables, processes and tools.</li> <li>• Use basic food handling, hygienic practices and personal hygiene.</li> <li>• Use simple finishing techniques to improve the appearance of their product.</li> </ul>	<p>order to make a product.</p> <ul style="list-style-type: none"> <li>• Cut, shape and join fabric to make a simple garment. Use basic sewing techniques.</li> <li>• Follow safe procedures for food safety and hygiene.</li> <li>• Choose and use appropriate finishing techniques.</li> </ul>	<p>accurately (time, dry ingredients, liquids).</p> <ul style="list-style-type: none"> <li>• Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens.</li> <li>• Cut and join with accuracy to ensure a good-quality finish to the product.</li> </ul>	<ul style="list-style-type: none"> <li>• Make modifications as they go along.</li> <li>• Pin, sew and stitch materials together to create a product.</li> <li>• Achieve a quality product.</li> </ul>
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<p><b>Evaluate</b></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>	<ul style="list-style-type: none"> <li>• Evaluate their product against original design criteria e.g. how well it meets its intended purpose.</li> <li>• Disassemble and evaluate familiar products.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their work both during and at the end of the assignment.</li> <li>• Evaluate their products carrying out appropriate tests.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate a product against the original design specification.</li> <li>• Evaluate it personally and seek evaluation from others.</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>• Record their evaluations using drawings with labels.</li> <li>• Evaluate against their original criteria and suggest ways that their product could be improved.</li> </ul>
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<p><b>Technical Knowledge</b></p> <ul style="list-style-type: none"> <li>❖ Apply their knowledge and understanding of how to strengthen, stiffen and reinforce more complex structures.</li> <li>❖ Understand and use mechanical systems in their products e.g. gears, pulleys, cams, levers and linkages.</li> <li>❖ Understand and use electrical systems in their products e.g. series circuits</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how levers and linkages or pneumatic systems create movement</li> <li>• Understand how simple electrical circuits and components can be used to create functional products</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how to program a computer to control their products</li> <li>• Know how to make strong, stiff shell structures</li> <li>• Know that a single fabric shape can be used to make a 3D textiles product</li> <li>• Know that food ingredients can be fresh, pre-cooked and processed</li> </ul>	<ul style="list-style-type: none"> <li>• Understand how cams, pulleys and gears create movement</li> <li>• Understand how more complex electrical circuits and components can be used to create functional products</li> <li>• Understand how to program a computer to monitor changes in the environment / control their products</li> </ul>	<ul style="list-style-type: none"> <li>• Know how to reinforce/strengthen a 3D framework</li> <li>• Know that a 3D textiles product can be made from a combination of fabric shapes</li> <li>• Know how a recipe can be adapted a by adding or substituting one or more ingredients</li> </ul>
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<p>incorporating switches, bulbs, buzzers and motors.</p> <p>❖ Apply their understanding of computing to program, monitor and control their products.</p>				
<p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.</p>	<p>Use a heat source appropriately and safely.</p> <ul style="list-style-type: none"> <li>• Use a range of techniques e.g. peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</li> </ul>	<p>Use a heat source appropriately and safely.</p>	<ul style="list-style-type: none"> <li>• How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</li> </ul>	<ul style="list-style-type: none"> <li>• How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</li> </ul>

	<ul style="list-style-type: none"> <li>• Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the “eat well” plate.</li> </ul> <p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</p>	<p>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world.</p>	<ul style="list-style-type: none"> <li>• How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that recipes can be adapted to change the appearance, taste, texture and aroma</li> <li>• Know that different foods contain different substances - nutrients, water and fibre - that are needed for health</li> </ul> <p>Know that seasons may affect the food available</p> <ul style="list-style-type: none"> <li>• Understand how food is processed into ingredients that can be</li> </ul>	<ul style="list-style-type: none"> <li>• How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> <li>• Understand the need for correct storage</li> <li>• Measure accurately</li> <li>• Work out ratios in recipes</li> </ul>
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Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.			eaten or used in cooking	<ul style="list-style-type: none"> <li>• Know that seasons may affect the food available</li> <li>• Understand how food is processed into ingredients that can be eaten or used in cooking</li> </ul>
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