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<tr><td>F2</td><td colspan="3">Expressive arts and design: Exploring and using media and materials<br><br>• Understands that different media can be combined to create new effects.<br>• Manipulates materials to achieve a planned effect.<br>• Constructs with a purpose in mind, using a variety of resources.<br>• Uses simple tools and techniques competently and appropriately.<br>• Selects appropriate resources and adapts work where necessary.<br>• Selects tools and techniques needed to shape, assemble and join materials they are using.<br><br>Early Learning Goal<br>They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.<br><br>Physical Development: Moving and Handling<br><br>• Uses simple tools to effect changes to materials.</td><td colspan="2">• Handles tools, objects, construction and malleable materials safely and with increasing control.<br><br>Early Learning Goal<br>Children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively, including pencils for writing.<br><br>Expressive arts and design: Being imaginative<br><br>• Create simple representations of events, people and objects.<br>• Chooses particular colours to use for a purpose.<br><br>Early Learning Goal<br>Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.</td></tr>
<tr><td></td><td>Design</td><td>Make</td><td>Evaluate</td><td>Technical Knowledge</td><td>Cooking and nutrition</td></tr>
<tr><td>NC objectives</td><td>▪ design purposeful, functional, appealing products for themselves and other users based on design criteria<br>▪ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</td><td>▪ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]<br>▪ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</td><td>▪ explore and evaluate a range of existing products<br>▪ evaluate their ideas and products against design criteria</td><td>▪ build structures, exploring how they can be made stronger, stiffer and more stable<br>▪ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</td><td>▪ use the basic principles of a healthy and varied diet to prepare dishes<br>▪ understand where food comes from.</td></tr>
<tr><td>Year 1</td><td>Use their knowledge of existing products and their own experience to help generate their ideas.<br><br>Identify a target group for what they intend to design and make<br><br>Explain how their products will look and work through talking and simple annotated drawings;</td><td>Make their design using appropriate techniques<br><br>With help measure, mark out, cut and shape a range of materials<br><br>Use tools eg scissors and a hole punch safely<br><br>Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or tape</td><td>Evaluate their product by discussing how well it works in relation to the purpose<br><br>Evaluate their products as they are developed, identifying strengths and possible changes they might make<br><br>Evaluate their product by asking questions about what they have made and how they have gone about it</td><td>Children build structures, exploring how they can be made stronger, stiffer and more stable.<br><br>Talk about and start to understand the simple working characteristics of materials and components;<br><br>Explore and use mechanisms Leavers and sliders.</td><td>Know that all food comes from plants or animals<br><br>Understand that food has to be farmed, caught or grown<br><br>That everyone should eat at least 5 portions of fruit and vegetables every day and begin to explain why</td></tr>
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| | Develop their design ideas applying findings from their earlier research<br><br>Plan and test ideas using templates and mock-ups; | Use basic sewing techniques<br><br>Use simple finishing techniques to improve the appearance of their product | | | Select and use appropriate fruit and vegetables, processes and tools<br><br>Use basic food handling, hygienic practices and personal hygiene. |
| Year 2 | Generate ideas by drawing on their own and other people's experiences<br><br>Develop their design ideas through discussion, observation , drawing and modelling<br><br>Identify a purpose for what they intend to design and make<br><br>Identify simple design criteria<br>design models using simple computing software<br><br>Make simple drawings and label parts | Begin to select tools and materials; use vocab' to name and describe them<br><br>Measure, cut and score with some accuracy<br><br>Use tools safely and appropriately<br><br>Assemble, join and combine materials in order to make a product<br><br>Cut, shape and join fabric to make a simple product.<br><br>Manipulate fabrics in simple ways to create the desired effect.<br><br>Use a basic running stich.<br><br>Choose and use appropriate finishing techniques | Evaluate against their design criteria<br><br>Evaluate their products as they are developed, identifying strengths and possible changes they might make<br><br>Talk about their ideas, saying what they like and dislike about them | Children build structures, exploring how they can be made stronger, stiffer and more stable.<br><br>Talk about and understand the sim materials and components.<br><br>Explore and use mechanisms wheels and axels. | Name and sort foods into the five groups.<br><br>Use this knowledge to prepare simple dishes.<br><br>Select and use appropriate fruit and vegetables, processes and tools.<br><br>Use basic food handling, hygienic practices and personal hygiene. |

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| NC objectives | ▪ 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<br>▪ generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | ▪ select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately<br>▪ 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 | ▪ investigate and analyse a range of existing products<br>▪ evaluate their ideas and products against their own design criteria and consider the views of others to improve their work<br>▪ understand how key events and individuals in design and technology have helped shape the world | ▪ apply their understanding of how to strengthen, stiffen and reinforce more complex structures<br>▪ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]<br>▪ understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]<br>▪ apply their understanding of computing to program, monitor and control their products. | ▪ understand and apply the principles of a healthy and varied diet<br>▪ prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques<br>▪ understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. |
| Year 3 | Generate ideas for an item, considering its purpose and the user/s<br><br>Identify a purpose and establish criteria for a successful product.<br><br>Plan the order of their work before starting<br><br>Explore, develop and communicate design proposals by modelling ideas<br><br>Use annotated sketches and cross-sectional drawings to develop and communicate their ideas; | Select tools and techniques for making their product<br><br>Measure, mark out, cut, score and assemble components with more accuracy<br><br>Work safely and accurately with a range of simple tools<br><br>Think about their ideas as they make progress and be willing change things if this helps them improve their work<br><br>Measure, tape or pin, cut and join fabric with some accuracy<br><br>Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT | Evaluate their product against original design criteria e.g. how well it meets its intended purpose<br><br>Disassemble and evaluate familiar products | Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products.<br><br>Start to understand that mechanical systems such as levers and linkages create movement.<br><br>Use mechanical systems in their products. | Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe.<br><br>Identify that food and drink are needed to provide energy for a healthy and active lifestyle and be able to apply these principles when planning and cooking dishes.<br><br>Prepare simple dishes hygienically and safely.<br><br>Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking. |

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| Year 4 | Generate ideas considering the purposes for which they are designing<br><br>Use annotated sketches and cross-sectional drawings to develop and communicate their ideas;<br><br>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<br><br>Use their knowledge of a broad range of existing products to help generate their ideas; | Select appropriate tools and techniques for making their product<br><br>Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques<br><br>Join and combine materials and components accurately in temporary and permanent ways<br><br>Sew using a range of different stitches.<br><br>Measure, tape or pin, cut and join fabric with some accuracy<br><br>Use finishing techniques to improve the appearance of their product using a range of equipment including ICT | Evaluate their work both during and at the end of the assignment<br><br>Evaluate their products carrying out appropriate tests | Understand how simple electrical circuits and components can be used to create functional products.<br><br>Make and represent simple electrical circuits and components to create functional products. | Begin to understand that the seasons can affect food produce.<br><br>Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking.<br><br>Prepare simple dishes hygienically and safely. |
| Year 5 | Generate ideas through brainstorming and identify a purpose for their product<br><br>Explain how particular parts of their products work.<br><br>Use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas.<br><br>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.<br><br>Use results of investigations, information sources, including | Select appropriate materials, tools and techniques<br><br>Measure and mark out accurately<br><br>Use skills in using different tools and equipment safely and accurately<br><br>Weigh and measure accurately (time, dry ingredients, liquids)<br><br>Cut and join with accuracy to ensure a good-quality finish to the product. | Explore and evaluate existing products, explaining the purpose of the product and whether it is designed well to meet the intended purpose.<br><br>Evaluate it personally and seek evaluation from others | Apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products.<br><br>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. (year 5 science forces)<br><br>Understand and demonstrate that mechanical systems have an input, process and output;<br><br>Explain how mechanical systems, such as cams, pulleys and gears create movement and use mechanical systems in their products. | Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world.<br><br>Understand that food is processed into ingredients that can be eaten or used in cooking.<br><br>Demonstrate how to prepare and cook a variety of predominantly savory dishes safely and hygienically including, where appropriate, the use of a heat source.<br><br>Begin to follow a recipe independently. |

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| | ICT when developing design ideas. | | | | |
| Year 6 | Use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas.<br><br>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways.<br><br>Consider the availability and costings of resources when planning out designs.<br><br>Plan the order of their work, choosing appropriate materials, tools and techniques. | Select appropriate tools, materials, components and techniques<br><br>Assemble components make working models<br><br>Use tools safely and accurately<br><br>Construct products using permanent joining techniques<br><br>Make modifications as they go along<br><br>Pin, sew and stitch materials together create a product.<br><br>Achieve a quality product | Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests<br><br>Record their evaluations using drawings with labels<br><br>Evaluate against their original criteria and suggest ways that their product could be improved | Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.<br>(Year 6 science electricity)<br><br>Understand and demonstrate that electrical systems have an input, process and output.<br><br>;<br>Apply their understanding of computing to program, monitor and control a product. | Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes.<br><br>Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality.<br><br>Demonstrate how to use a range of cooking techniques.<br><br>Prepare dishes hygienically and safely.<br><br>Independently follow a recipe. |