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|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Developing, planning and communicating ideas. | \*Draw on own experience to help generate ideas. \*Suggest ideas and explain what they are going to do  \*Identify a target group for what they intend to design and make  \*Model their ideas in card and paper \*Develop their design ideas applying findings from their earlier research. | \*Generate ideas by drawing on their own and other people's experiences  \*Develop their design ideas through discussion, observation, drawing and modelling  \*Identify a purpose for what they intend to design and make \*Identify simple design criteria  \*Make simple drawings and label parts.  \*Make templates and mock ups of their ideas using card, paper or ICT. | \*Generate ideas for an item considering its purpose and the user/s  \* Identify a purpose and establish criteria for a successful product.  \*Plan the order of their work before starting  \*Explore, develop and communicate design proposals by modelling ideas  \*Make drawings with labels when designing  \*Know about designers of ground-breaking  products  \*Start to understand whether products are recyclable or reusable | \* Generate ideas, considering the purposes for which they are designing  \*Make labelled drawings from different views showing specific features  \*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  \*Evaluate products and identify criteria that can be used for their own designs  \*Know about designers of ground-breaking  Products  \*Explain choices of materials and components according to function and aesthetics. | \*Generate ideas through brainstorming and identify a purpose for their product \*Draw up a specification for their design  \*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  \*Use results of investigations, information sources, including ICT when developing design ideas  \*Start to understand how much products cost to make and the impact they have. | \*Communicate ideas through detailed labelled drawings \*Develop a design specification  \*Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways  \*Plan the order of their work, choosing appropriate materials, tools and technique  \*Know how much products cost to make and the impact they have.  \*Suggest alternative methods of making if the first attempt fails. |
| Working with tools, equipment, materials and components to make quality products | \*Make their design using appropriate techniques  \*With help measure, mark out, cut and shape a range of materials  \*Use tools eg scissors and a hole punch safely \*Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape  \*Use simple finishing techniques to improve the appearance of their product | \*Begin to select tools and materials; use vocab' to name and describe them  \*Measure, cut and score with some accuracy  \*Use hand tools safely and appropriately \*Assemble, join and combine materials in order to make a product  \*Cut, shape and join fabric to make a simple garment. Use basic sewing techniques  \*Choose and use appropriate finishing techniques | \*Select tools and techniques for making their product  \*Measure, mark out, cut, score and assemble components with more accuracy \*Work safely and accurately with a range of simple tools  \*Think about their ideas as they make progress and be willing change things if this helps them improve their work \* Measure, tape or pin, cut and join fabric with some accuracy \*Demonstrate hygienic food preparation and storage  \* Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT | \*Select appropriate tools and techniques for making their product  \*Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques  \* Join and combine materials and components accurately in temporary and permanent ways  \*Sew using a range of different stitches, weave and knit  \* Measure, tape or pin, cut and join fabric with some accuracy  \*Use simple graphical communication techniques | \*Select appropriate materials, tools and techniques  \*Measure and mark out accurately  \*Use skills in using different tools and equipment safely and accurately  \*Weigh and measure accurately (time, dry ingredients, liquids) \*Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens  \*Cut and join with accuracy to ensure a good-quality finish to the product | \*Select appropriate tool, materials, components and techniques  \*Assemble components make working models \*Use tools safely and accurately  \*Construct products using permanent joining techniques  \*Make modifications as they go along  \* Pin, sew and stitch materials together create a product  \* Achieve a quality product |
| Food and Nutrition | \*Begin to know that all food comes from plants and animals  \*Begin to understand that everyone should eat 5 portions of fruit and veg per day  \*Select and use appropriate fruit and vegetables, processes and tools  \*Use basic food handling, hygienic practices and personal hygiene | \*Understand how to sort foods into the 5 groups in the ‘Eat Well Plate’  \*Demonstrate how to prepare simple dishes safely and hygienically without using a heat source.  \*Demonstrate how to use techniques such as cutting, peeling and grating. | Cooking and nutrition  Where food comes from  \*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  Food preparation,  \*Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source  \*Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking  \*Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eat well Plate  \*Know that to be active and healthy, food and drink are needed to provide energy for the body | | Cooking and nutrition  Where food comes from  \*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  \*Know that seasons may affect the food available  \*Know how food is processed into ingredients that can be eaten or used in cooking  Food preparation  \*Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source  \*Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking  \*Understand that recipes can be adapted to change the appearance, taste, texture and aroma \*Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health | |
| Technical Knowledge | **Key Stage 1**  \*Simple working characteristics of materials and components.  \*Movement of simple mechanisms such as levers, sliders, wheels and axles.  \*How free standing structures can be made stronger, stiffer and more stable.  \* 3d fabric products can be assembled from 2 identical fabric shapes  \*Food ingredients should be combined according to sensory characteristics  \*Any technical vocabulary for the projects they are undertaking. | | **Lower Key Stage 2**  \* how to use learning from science and maths to help design and make products that work  \* that materials have both functional properties and aesthetic qualities  \*that materials can be combined and mixed to create more useful characteristics  \* that mechanical and electrical systems have an input, process and output  \* use the correct technical vocabulary for the projects they are undertaking  \* how mechanical systems such as levers and linkages or pneumatic systems create movement  \* how simple electrical circuits and components can be used to create functional products  \* how to program a computer to control their products  \* how to make strong, stiff shell structures  \* that a single fabric shape can be used to make a 3D textiles product  \*that food ingredients can be fresh, pre-cooked and processed | | **Upper Key Stage 2**  \*how to use learning from science and maths to help design and make products that work  \*that materials have both functional properties and aesthetic qualities  \*that materials can be combined and mixed to create more useful characteristics  \*that mechanical and electrical systems have an input, process and output  \*the correct technical vocabulary for the projects they are undertaking  \* how mechanical systems such as cams or pulleys or gears create movement  \* how more complex electrical circuits and components can be used to create functional products  \* how to program a computer to monitor changes in the environment and control their products  \* how to reinforce and strengthen a 3D framework  \* that a 3D textiles product can be made from a combination of fabric shapes  \*that a recipe can be adapted by adding or substituting one or more ingredients | |
| Evaluating processes and products | \*Evaluate their product by discussing how well it works in relation to the purpose  \* Evaluate their products as they are developed, identifying strengths and possible changes they might make \*Evaluate their product by asking questions about what they have made and how they have gone about it  \*Evaluate existing products | \*Evaluate against their design criteria \*Evaluate their products as they are developed, identifying strengths and possible changes they might make  \* Talk about their ideas, saying what they like and dislike about them  \*Evaluate existing products, exploring what they are for, how they might be used and what they are made from. | \*Evaluate their product against original design criteria e.g. how well it meets its intended purpose  \* Disassemble and evaluate familiar products  \*Evaluate key events and designers who have created ground-breaking products. | \*Evaluate their product against original design criteria e.g. how well it meets its intended purpose  \* Disassemble and evaluate familiar products  \*Evaluate key events and designers who have created ground-breaking products. | \*Evaluate a product against the original design specification  \* Evaluate it personally and seek evaluation from others  \*Evaluate existing products exploring the materials used, construction methods, costing, and impact.  \*Evaluate key events and designers who have created ground-breaking products. | \*Evaluate their products identifying strengths and areas for development, and carrying out appropriate tests  \* Record their evaluations using drawings with labels  \*Evaluate existing products exploring the materials used, construction methods, costing, and impact.  \* Evaluate against their original criteria and suggest ways that their product could be improved  \*Evaluate key events and designers who have created ground-breaking products. |