

**DT Threshold Concepts**

Overarching DT theme: xx

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|  |  | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **DESIGN** | **Knowledge** | Design purposeful, functional, appealing products for themselves and other users based on design criteria  Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology | Design purposeful, functional, appealing products for themselves and other users based on design criteria  Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology | 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  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | 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  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | 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  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design | 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  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design |
| **Skills** | Draw on their 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  Draw a simple picture of their idea and label the main parts  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 | 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 | 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 | 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 | Communicate their ideas through detailed labelled drawings including ICT / CAD  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 techniques |
| **MAKE (INCLUDING FOOD)** | **Knowledge** | Select from and use a range of tools and equipment to perform practical tasks  Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics  Technical Knowledge  Build structures, exploring how they can be made stronger, stiffer and more stable  Explore and use mechanisms in their products.  Use the basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from. | Select from and use a range of tools and equipment to perform practical tasks  Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics  Technical Knowledge  Build structures, exploring how they can be made stronger, stiffer and more stable  Explore and use mechanisms in their products.  Use the basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from. | Select from and use a wider range of tools and equipment to perform practical tasks, accurately  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  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed  Technical Knowledge  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products  Understand and use electrical systems in their products | Select from and use a wider range of tools and equipment to perform practical tasks, accurately  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  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed  Technical Knowledge  Apply their understanding of how to strengthen, stiffen and reinforce more complex  structures  Understand and use mechanical systems in their products  Understand and use electrical systems in their products | Select from and use a wider range of tools and equipment to perform practical tasks, accurately  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  understand and apply the principles of a healthy and varied diet  prepare and cook a variety of predominantly savoury dishes using a range o cooking techniques  understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed  Technical Knowledge  apply their understanding of how to strengthen, stiffen and reinforce more complex structures  understand and use mechanical systems in their products  understand and use electrical systems in their products | Select from and use a wider range of tools and equipment to perform practical tasks, accurately  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  understand and apply the principles of a healthy and varied diet  prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed  Technical Knowledge  apply their understanding of how to strengthen, stiffen and reinforce more complex  structures  understand and use mechanical systems in their products  understand and use electrical systems in their products |
| **Skills** | With help make their design using appropriate techniques    With help measure, mark out, cut and shape a range of materials  Use age appropriate 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    Select and use appropriate fruit and vegetables, processes and tools    Use basic food handling, hygienic practices and personal hygiene as directed  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  Select and use appropriate ingredients, processes and tools  Follow safe procedures for food safety and hygiene  Choose and use appropriate finishing techniques | Select tools and techniques for making their product inc ICT from a selection given  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 inc use of ICT  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.  Identify and demonstrate hygienic food preparation and storage  Measure, tape or pin, cut and join fabric with some accuracy  Use simple graphical  communication techniques | Select appropriate materials, tools and techniques inc ICT  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 tools, materials, components and techniques inc ICT  Assemble components make working models  Use tools safely and accurately  Construct products using permanent joining techniques  Weigh and measure accurately (time, dry ingredients, liquids)  Know and apply the rules for basic food hygiene and demonstrate awareness of other safe practices e.g. hazards relating to the use of ovens  Make use of seasonal food  Make modifications as they go along  Pin, sew and stitch materials together create a product  Achieve a quality product |
| **EVALUATE** | **Knowledge** | Explore and evaluate a range of existing products  Evaluate their ideas and products against design criteria | Explore and evaluate a range of existing products  Evaluate their ideas and products against design criteria | Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world | Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world | Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world | Investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world |
| **Skills** | 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 answering simple questions about what they have made and how they have gone about it | 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 their product against original design criteria e.g. how well it meets its intended purpose  Disassemble and evaluate familiar products | Evaluate their work both during and at the end of the assignment  Evaluate their products carrying out appropriate tests | Evaluate a product against the original design specification  Evaluate it personally and seek evaluation from others | Evaluate their product identifying strengths and areas for development, and carrying out appropriate tests  Record their evaluations using drawings with labels  Evaluate against their original criteria and suggest ways that their product could be improved |