

**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 criteriaGenerate, 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 criteriaGenerate, 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 doIdentify a target group for what they intend to design and make Draw a simple picture of their idea and label the main partsDevelop their design ideas applying findings from their earlier research | Generate ideas by drawing on their own and other people's experiencesDevelop their design ideas through discussion, observation , drawing and modellingIdentify 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/sIdentify a purpose and establish criteria for a successful product.Plan the order of their work before startingExplore, 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 / CADDevelop a design specification Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of waysPlan 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 characteristicsTechnical KnowledgeBuild 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 characteristicsTechnical KnowledgeBuild 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 qualitiesUnderstand and apply the principles of a healthy and varied dietPrepare 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 processedTechnical KnowledgeApply 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 qualitiesUnderstand and apply the principles of a healthy and varied dietPrepare 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 processedTechnical KnowledgeApply 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 qualitiesunderstand and apply the principles of a healthy and varied dietprepare 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 processedTechnical Knowledgeapply their understanding of how to strengthen, stiffen and reinforce more complex structuresunderstand 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 qualitiesunderstand and apply the principles of a healthy and varied dietprepare 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 processedTechnical Knowledgeapply 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 directedUse simple finishing techniques to improve the appearance of their product | Begin to select tools and materials; use vocab' to name and describe themMeasure, cut and score with some accuracyUse hand tools safely and appropriately Assemble, join and combine materials in order to make a productCut, shape and join fabric to make a simple garment. Use basic sewing techniquesSelect and use appropriate ingredients, processes and toolsFollow 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 givenMeasure, 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 workMeasure, 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 ICTMeasure, 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 ICTMeasure 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 ovensCut and join with accuracy to ensure a good-quality finish to the product | Select appropriate tools, materials, components and techniques inc ICTAssemble 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 foodMake 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 productsEvaluate their ideas and products against design criteria | Explore and evaluate a range of existing productsEvaluate 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 assignmentEvaluate their products carrying out appropriate tests | Evaluate a product against the original design specificationEvaluate 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 labelsEvaluate against their original criteria and suggest ways that their product could be improved |