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| **DT Progression of Skills KS2** |
| This document has been designed to show how we will cover all of the relevant DT knowledge and skills across our school. The context in which these are taught is down to the discretion of teachers, where possible trying to match the content of their unit to their year group’s termly topic. Please see the individual Year Group’s Termly overview to see the content of the DT studied at St Michael’s School.  |
| \\STM-Server1\arvind.hirani$\Documents\Desktop\JPG-WhiteBackground.jpg | **KS2 Area of study****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**Make** Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], 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**Evaluate** 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**Technical knowledge** Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]  Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products.**Cooking and nutrition**  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. |
| Developing, planning and communicating ideas. | Year 3 | Year 4  | Year 5  | Year 6  |
|  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 mind mapping 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 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 |
| Working with tools, equipment, materials and components to make quality products (including -food) |  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 Join fabric using a simple stitch with some accuracy Understand that food can be grown, reared and caught. Understand and apply principles of healthy and varied diets. Use finishing techniques strengthen and improve the appearance and packaging 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 Begin to join and combine materials and components accurately in temporary and permanent ways with some accuracy. Sew using a range of different stitches, weave and knit Measure, tape or pin, cut and join fabric with some accuracy Use simple electrical circuits to create a functional product Demonstrate hygienic food preparation and storage when cooking a variety of healthy dishes |  Select appropriate materials, tools and techniques safely and accurately. Measure and mark out accurately Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]  Weigh and measure accurately (time, dry ingredients, liquids) Prepare and cook a variety of savoury dishes using a range of cooking techniques. 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 Assemble components make working models Use tools safely and accurately Construct products using permanent joining techniques Make modifications as they go along, including reinforcing and strengthening a 3D framework. Pin, sew and stitch materials together create a quality product Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] Apply their understanding of computing to program, monitor and control their products. Prepare and cook a variety of dishes using a range of cooking techniques. Understand seasonality in a variety of ingredients. |
| Evaluating processes and products. |  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 products, 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 |