**Progression of skills in Design Technology 2019/2020**

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| Area of study | Year 3 | Year 4 | Year 5 | Year 6 |
| Design | With growing confidence generate ideas for an item, considering its purpose and the user/s.    Start to order the main stages of making a product.  Identify a purpose and establish criteria for a successful product.  Understand how well products have been designed, made, what materials have been used and the construction technique.  Know to make drawings with labels when designing.  When planning explain their choice of materials and components including function and aesthetics.  Start suggesting alternative methods of making, if the first attempts fail. | Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science.  Confidently 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.    Identify the strengths and areas for development in their ideas and products.  When planning consider the views of others, including intended users, to improve their work.  When planning explain their choice of materials and components according to function and aesthetic. | Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.    Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.  With growing confidence apply a range of finishing techniques, including those from art and design.  Draw up a specification for their design- link with Mathematics and Science.  With growing confidence select appropriate materials, tools and techniques. | Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.    Accurately apply a range of finishing techniques, including those from art and design.  Draw up a specification for their design- link with Mathematics and Art.  Plan the order of their work, choosing appropriate materials, tools and techniques.    Suggest alternative methods of making if the first attempts fail.    Identify the strengths and areas for development in their ideas and products.  Start to understand whether products can be recycled or reused. |
| Make | Select a wider range of tools and techniques for making their product i.e. construction materials  and kits, textiles, food ingredients, mechanical components and electrical components.  Explain their choice of tools and equipment in relation to the skills and techniques they will be using.  Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement    Assemble components with accuracy.  Start to work safely and accurately with a range of simple tools.  Start to think about their ideas as they make progress and be willing to change things if this helps them to improve their work.  Start to measure, tape or pin, cut and join fabric with some accuracy. | Select a wider range of tools and techniques for making their product safely.  Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.  Start to join and combine materials and components accurately in temporary and permanent ways.  Understand how more complex electrical circuits and components can be used to create functional products.  Understand how to reinforce and strengthen a 3D framework.  Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. | Select appropriate materials, tools and techniques e.g. cutting, shaping, joining and finishing, accurately.    Select from and use a wider range of materials and components, including construction materials, and textiles, according to their functional properties and aesthetic qualities.  Understand how mechanical systems such as cams or pulleys or gears create movement.    Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.  Understand that mechanical and electrical systems have an input, process and output.  Begin to measure and mark out more accurately.    Demonstrate how to use skills in using different tools and equipment safely and accurately with growing confidence cut and join with accuracy to ensure a good-quality finish to the product.  Use finishing techniques to strengthen and improve the appearance of their product. | Confidently select appropriate tools, materials, components and techniques and use them.  Use tools safely and accurately.  Aim to make and to achieve a quality product.    With confidence pin, sew and stitch materials together to create a product.  Demonstrate when make modifications as they go along.  Construct products using permanent joining techniques.  Use finishing techniques to strengthen and improve the appearance of their product. |
| Evaluate | Start to evaluate their product against original design criteria *e.g. how well it meets its intended purpose* | Evaluate their products carrying out appropriate tests.  Start to evaluate their work both during and at the end of the assignment.  Be able evaluate familiar products and consider the views of others to improve them. | Start to evaluate a product against the original design specification and by carrying out tests.  Evaluate their work both during and at the end of the assignment.  Begin to evaluate it personally and seek evaluation from others. | Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests.    Evaluate their work both during and at the end of the assignment.  Record their evaluations using drawings with labels.  Evaluate against their original criteria and suggest ways that their product could be improved. |
| Technical knowledge | Basic cutting skills  Basic knife skills  Basic sewing stitches | Specific cutting skills  Specific knife skills | Precise cutting skills  Specific knife skills | Precise cutting skills  Appropriate and specific knife skills  Basic sewing stitches |
| Food and nutrition | Start to know where food comes from in the UK, Europe and the wider world.  Understand how to prepare a savoury dishes safely and hygienically.    Begin to understand how to use a range of techniques such as slicing, choping and spreading.  Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eat well plate’.  Begin to know that to be active and healthy, food and drink are needed to provide energy for the body. | Understand where food comes from in the UK, Europe and the wider world.  Understand how to prepare a variety of predominantly savoury dishes safely and hygienically.  Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing and spreading.  Know that a healthy diet is made up from a variety and balance of different food and drink.  Know that to be active and healthy, food and drink are needed to provide energy for the body. | Begin to understand that seasons may affect the food available.  Understand how food is processed into ingredients that can be eaten or used in cooking.  Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.  Start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, rolling and baking.  Begin to understand that different food and drink contain different substances – nutrients, water and fibre – that  are needed for health. | Understand that seasons may affect the food available.    Understand how food is processed into ingredients that can be eaten or used in cooking.  Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.  Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing,  spreading, kneading and baking.    Know different food and drink contain different substances – nutrients, water and fibre – that  are needed for health. |