# Shelton Junior School
# LKS2 DT Long-Term Progression of Knowledge and Skills

| | DISCOVER – resilience and collaboration | INVESTIGATE – reflection and concentration | EXPLORE - curiosity |
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| **Year A** | **Heroic Heritage – Why are beliefs important?** | **Nurturing Nature – How do plants and living things flourish?** | **Go With The Flow – How do people choose where to settle?** |
| | **Textiles – 2D shape to 3D product**<br>Design, make and evaluate a simple purse related to stone age/iron age | **Food – healthy and varied diet**<br>Design, make and evaluate a healthy, varied meal | **Structures – shell structures**<br>Design, make and evaluate a lampshade/ bulb cover |
| **Year B** | **Incredible Invaders – Why do people always want more?** | **Magnets and Matter – Are all changes irreversible?** | **Incredible Invaders – Why do people always want more?** |
| | **Food – healthy and varied diet**<br>Design, make and evaluate a bread based food item linked to the Roman/Anglo Saxon diet | **Mechanical systems – levers and linkages**<br>Make an information poster about slides and levers, linked with magnets. | **Electrical systems – simple circuits and switches**<br>Make a nightlight using a variety of switches |

| | Year 3 Skills | Year 4 Skills |
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| Designing | • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.<br>• Use annotated sketches, prototypes, final product sketches and pattern pieces; communication technology, such as web-based recipes, to develop and communicate ideas.<br>• Use computer-aided design where appropriate | • Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups.<br>• Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas.<br>• Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams.<br>• Use computer-aided design where appropriate |
| Making | • Plan the main stages of making.<br>• Select from and use a range of appropriate utensils, tools and equipment with some accuracy related to their product.<br>• Select from and use finishing techniques suitable for the product they are creating. | • Order the main stages of making.<br>• Select and use appropriate tools to measure, mark out, cut, score, shape and combine with some accuracy related to their products.<br>• Explain their choice of materials according to functional properties and aesthetic qualities. |

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| | | • Select from and use materials and components, including ingredients, construction and electrical components according to their function and properties. |
| Evaluating | • Investigate a range of 3-D textile products, ingredients and lever and linkage products relevant to their project.<br>• Test their product against the original design criteria and with the intended user.<br>• Evaluate the ongoing work and the final product with reference to the design criteria and the views of others | • Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used. • Test and evaluate their own products against design criteria and the intended user and purpose.<br>• Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. |
| Technical knowledge | • Know how to make stiff shell structures<br>• Know that a single fabric shape can be used to make a 3D textiles product<br>• Know that food ingredients can be fresh, pre-cooked and processed. | • Know how mechanical systems such as levers and linkages or pneumatic systems create movement<br>• Know how simple electrical components can be used to create functional products<br>• Know how to program a computer to control their products |
| Cooking and nutrition | • Know how to use appropriate equipment and utensils to prepare and combine food.<br>• Know about a healthy and varied diet<br>• Know about a range of fresh and processed ingredients appropriate for their product<br>• Know and use relevant technical vocabulary appropriately. | • Know how to use appropriate equipment and utensils to prepare and combine food.<br>• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.<br>• Know and use relevant technical vocabulary appropriately. |

# Shelton Junior School
# UKS2 DT Long-Term Progression of Knowledge and Skills

| | DISCOVER – resilience and collaboration | INVESTIGATE – reflection and concentration | EXPLORE - curiosity |
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| **Year A** | **Seeking Safety – Does adversity always make you stronger?** | **Stayin' Alive – Are all living things equal?** | **The Amazing Americas – Do we always appreciate what we've got?** |
| | **Structures – frame structures**<br>Design, make and evaluate a shelter focusing on the strength/rigidity of the join | **Food – celebrating culture and seasonality**<br>Design, make and evaluate a meal with seasonable products | **Electrical systems – more complex switches and circuits**<br>Create a variety of circuits and explore more complicated switches. Use problem solving to fix broken circuits |
| **Year B** | **Ancient Civilisations – Why do people have different beliefs?** | **Survival of the Fittest – What's the difference between surviving and living?** | **Amazon Adventures – Why do people explore?** |
| | **Textiles – combining different fabric shapes**<br>Design, make and evaluate a fabric item using weaving | **Food – celebrating culture and seasonality**<br>Design, make and evaluate a yeast-based snack (hot cross buns for Easter) | **Mechanical systems – pulleys or gears**<br>Design, make and evaluate a moon rover |

| | Year 5 Skills | Year 6 Skills |
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| Designing | • Generate innovative ideas through research including surveys, interviews and questionnaires. Discuss with peers to develop a design brief and criteria for a design specification.<br>• Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification.<br>• Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.<br>• Use computer-aided design where appropriate | • Use research using surveys, interviews, questionnaires and web-based resources to develop a design specification for a range of functional products.<br>• Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.<br>• Generate and develop innovative ideas and share and clarify these through discussion.<br>• Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.<br>• Use computer-aided design where appropriate |
| Making | • Produce detailed lists of equipment relevant to their tasks<br>• Write a step-by-step plan, including a list of resources required. | • Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components. |

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| | • Select from and use, a range of appropriate utensils, tools and equipment accurately to measure and combine appropriate ingredients, materials and resources. | • Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials, and securely connect electrical components to produce reliable, functional products.<br>• Use finishing and decorative techniques suitable for the product they are designing and making. |
| Evaluating | • Investigate and analyse products linked to their final product.<br>• Compare the final product to the original design specification and record the evaluations.<br>• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.<br>• Consider the views of others to improve their work | • Continually evaluate and modify the working features of the product to match the initial design specification.<br>• Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.<br>• Test the system to demonstrate its effectiveness for the intended user and purpose. |
| Technical knowledge | • Know how more complex circuits and components can be used to create functional products<br>• Know how to reinforce and strengthen a 3D framework<br>• Know that a recipe can be adapted by adding or substituting one or more ingredients | • Know how mechanical systems such as pulleys or gears create movement<br>• Know a 3D textiles product can be made from a combination of fabric shapes |
| Cooking and nutrition | • Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know and use relevant technical vocabulary. | • Know how to use utensils and equipment including heat sources to prepare and cook food.<br>• Understand about seasonality in relation to food products and the source of different food products.<br>• Know and use relevant technical vocabulary. |