



### DT Whole School Overview and Progression

	Cooking and nutrition	Textiles	Mechanisms/electrical systems	Materials and construction
Year 1	<p>Summer term – Masterclass</p> <p><i>Children discuss foods they eat at home and what healthy foods are. They use simple tools to help prepare food safely.</i></p>	<p>Term: Autumn Topic: Myself, My School and My Village</p> <p>Design make and evaluate a teddy bear (product) for themselves (user) to play with (purpose).</p> <p><i>Children look at existing bears and ask questions about them. They learn how to sew and join fabrics using a running stitch.</i></p>	<p>Term: Spring Topic: Travelling around the world</p> <p>Design, make and evaluate a model toy car (product) for themselves (users) to play with (purpose).</p> <p><i>Children use pictures and words to describe what they want to make and create a simple design. They use simple tools to cut, join and combine materials and explore how to make their models stronger, stiffer and more stable. Children use wheels and axles in their products.</i></p>	
Year 2	<p>Spring term – Masterclass</p> <p><i>Children build upon their learning about healthy foods in Year 1 and understand the need for a variety of food in their diet. Children understand where food comes from and know that all food has to be farmed, grown or caught. They begin to use a wider range of cookery techniques to prepare food safely.</i></p>	N/A	<p>Term: Autumn Topic: Fire and Light</p> <p>Design, make and evaluate a pneumatic moving dragon toy (product) for themselves (user) to play with (purpose).</p> <p><i>Children design a purposeful, functional and appealing design based on a design criteria. They generate, model and communicate their ideas through talking, drawing, templates and mock ups. Children will develop their measuring skills to safely measure, mark out, cut and shape materials. Children will evaluate their moving dragons against the design criteria.</i></p>	<p>Term: Summer Topic: Around the world</p> <p>Design, make and evaluate a tower (product) for themselves (user) to test how to make a strong freestanding structure.</p> <p><i>When creating their tower, children will choose tools to create their design based on their knowledge of their properties. Children will develop their measuring skills to safely measure, mark out, cut and shape materials. They will investigate different techniques for stiffening materials and enable their structure to remain stable. Children will finish their project by evaluating their tower against the design criteria.</i></p>



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Year 3	<p>Autumn term – Masterclass</p> <p><i>Children can talk about the different food groups and name food from each group. They reinforce their knowledge of where food comes from and know it has to be grown, farmed or caught in Europe and the wider world. They use a wider variety of ingredients and techniques to prepare and combine ingredients safely.</i></p>	<p>Term: Spring Topic: Rivers and mountains Design, make and evaluate bunting with a print (product) for the class (user) to raise awareness to be environmentally friendly and protect our oceans and the animals within them (purpose).</p> <p><i>Children discuss how to design bunting to meet their design criteria. Children investigate and analyse existing products and use this to design a bunting triangle design to raise awareness of protecting ocean animals. Children make a template (or pattern) using paper. They measure and mark out their shape by drawing round their template onto the fabric. Children begin to improve their sewing skills using running stitch more accurately and understand how to thread a needle and give this an attempt.</i></p>	<p>Term: Summer Topic: Romans Design, make and evaluate a moving picture (product) for themselves (user) to retell a Roman story (purpose).</p> <p><i>Children evaluate and explore existing pop up/moving books and investigate how the sliders and levers work. Children create a design based on a design criteria and create a mock up out of paper. They then create their own moving picture using mechanisms such as leavers and sliders.</i></p>	N/A
Year 4	<p>Autumn term – Masterclass</p> <p><i>Children understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. They learn about seasonality and the advantages of eating seasonal and locally produced food. They read and follow recipes which involve several processes, skills and techniques.</i></p>	<p>Term: Summer Topic: Ancient Egypt</p> <p>Design, make and evaluate a pencil case (product) for themselves (user) to use to store pencils.</p> <p><i>Sewing skills are becoming more accurate using running and back stitch. They are also introduced to the over stitch and children thread a needle with growing independence. They use their knowledge of existing products</i></p>	<p>Term: Spring Topic: Polar Regions</p> <p>Design, make and evaluate a light (product) for themselves (user) to use (purpose).</p> <p><i>Children will learn about Thomas Edison and how his invention of the lightbulb helped to shape the world. Children create a design using an exploded diagram. They use techniques which require more accuracy to cut, shape, join and finish their work, including cutting internal shapes. They apply what they have learnt to strength the structure to hold all the required electrical parts. Children understand and use electrical systems in products.</i></p>	



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		<i>to design a functional and appealing product for a purpose and audience. Children learn about the functional and aesthetic qualities of a wide range of materials and add further decoration to their work using buttons, beads, sequins etc. They evaluate how their finished product might be improved to meet the needs of the intended user.</i>	
Year 5	<p>Summer term – Masterclass</p> <p><i>Children understand the main food groups and the different nutrients that are important for health. They know how a variety of ingredients are grown, reared, caught and processed to make them safe and palatable / tasty to eat. They also begin to become more independent when selecting appropriate ingredients and use a wide range of techniques to combine them.</i></p>	N/A	<div> <p>Term: Spring Topic: Natural Disasters</p> <p>Design, make and evaluate a natural disaster alert system (product) for others (user) to alert potential dangers.</p> <p><i>Children create a prototype to demonstrate their ideas. Children investigate existing products. Children understand and use electrical systems in their products and apply their understanding of computing to control, monitor and program their Micro:bits. Children make detailed evaluations about their work and consider the views of others to make improvements.</i></p> </div> <div> <p>Term: Autumn Topic: Rainforest and Mayans</p> <p>Design, make and evaluate a bridge (product) for themselves (user) to test how to reinforce structures to ensure they are strong enough to survive a natural disaster.</p> <p><i>Children use research into existing bridges and learn about the work of Isambard Kingdom Brunel. They will use market research to inform the design of their own innovative bridge. They make careful and precise measurements so that joins, holes and openings are in exactly the right place. Children produce step by step plans to guide them in making, demonstrating that they can apply their knowledge of different materials, tools and techniques. Children build more complex 3D structures and apply his/her knowledge of strengthening techniques to make them stronger or more stable. Children understand how to use more complex mechanical systems (pulleys) in their final drawbridge challenge.</i></p> </div>



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Year 6	<p>Spring term – Masterclass</p> <p><i>Children learn how to confidently plan a series of healthy meals based on the principles of a healthy and varied diet. They use information on food labels to inform choices. They can research, plan and prepare and cook a savoury dish, applying their knowledge of ingredients and my technical skills.</i></p>	<p>Term: Autumn Topic: Victorians</p> <p>Design, make and evaluate a bag using a William Morris print (product) for themselves or a family member (user) to use.</p> <p><i>Children research designers and inventors to inform their product. They communicate their design through discussion, annotated sketches and exploded diagrams. They apply their knowledge of materials to refine and rework their product to improve its functional and aesthetic qualities. They use their knowledge of famous designs to explain the effectiveness of the product they have made. Children can create products using pattern pieces and demonstrate an awareness of seam allowance. They are taught how to use cross stitch in embroidery and show greater confidence in using running and back stitch. Children thread a needle independently.</i></p>	<p>Term: Summer Topic: Our changing world</p> <p>Design, make and evaluate a key ring that shows their individuality (product) for themselves (user) to use when they go to secondary school.</p> <p><i>Children will generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes and computer aided design. They will use their technical knowledge and accurate skills to problem solve during the making process when creating their final product on Tinkercad.</i></p>	