

## Cycle A

	Autumn	Spring	Summer
<b>Year 1 and 2</b>	<b>Tudor houses (Freestanding Structures)</b> <ul style="list-style-type: none"> <li>Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</li> <li>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</li> <li>Know how to make freestanding structures stronger, stiffer and more stable.</li> </ul>	<b>Moving pictures (Sliders and leavers)</b> <ul style="list-style-type: none"> <li>Explore a range of existing books and everyday products that use simple sliders and levers.</li> <li>Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.</li> <li>Explore and use sliders and levers.</li> <li>Understand that different mechanisms produce different types of movement.</li> </ul>	<b>Picture frames (structure frames)</b> <ul style="list-style-type: none"> <li>Investigate and evaluate a range of existing frames.</li> <li>Explore and evaluate a range of frames for purpose.</li> <li>Develop and use knowledge of how to construct strong, stiff frame structures.</li> <li>Understand how to strengthen, stiffen and reinforce 2-D frameworks.</li> </ul>
<b>Year 3 and 4</b>	<b>Round houses (Shell Structures)</b> <ul style="list-style-type: none"> <li>Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.</li> <li>Test and evaluate their own products against design criteria and the intended user and purpose.</li> <li>Develop and use knowledge of how to construct strong, stiff shell structures.</li> <li>Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</li> </ul>	<b>Cooking Be a baker (year 3)</b> <b>Lovely lunch (year 4)</b> <ul style="list-style-type: none"> <li>Plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</li> <li>Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.</li> <li>Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> </ul>	<b>Making bag -Textiles 2-D shape to 3-D product</b> <ul style="list-style-type: none"> <li>Investigate a range of 3-D textile products relevant to the project.</li> <li>Understand how a key event/individual has influenced the development of the chosen product and/or fabric.</li> <li>Know how to strengthen, stiffen and reinforce existing fabrics.</li> <li>Understand how to securely join two pieces of fabric together.</li> <li>Understand the need for patterns and seam allowances.</li> </ul>
<b>Year 5 and 6</b>	<b>Anderson shelters (Frame Structures)</b> <ul style="list-style-type: none"> <li>Investigate and evaluate a range of existing frame structures.</li> <li>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.</li> <li>Research key events and individuals relevant to frame structures.</li> <li>Understand how to strengthen, stiffen and reinforce 3-D frameworks.</li> </ul>	<b>Cooking Serve a salad (year 5)</b> <b>Grab and go (year 6)</b> <ul style="list-style-type: none"> <li>Write a step-by-step recipe, including a list of ingredients, equipment and utensils</li> <li>Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.</li> <li>Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.</li> <li>Understand how key chefs have influenced us.</li> </ul>	<b>Automatic nightlight (Electrical systems)</b> <b>More complex switches and circuits)</b> <ul style="list-style-type: none"> <li>Continually evaluate and modify the working features of the product to match the initial design specification.</li> <li>Test the system to demonstrate its effectiveness for the intended user and purpose.</li> <li>Investigate famous inventors who developed ground-breaking electrical systems and components.</li> <li>Understand and use electrical systems in their products.</li> <li>Apply their understanding of computing to program, monitor and control their products.</li> </ul>

## Cycle B

	Autumn	Spring	Summer
Year 1 and 2	<b>Sewing a jester (Textiles Templates and joining)</b> <ul style="list-style-type: none"> <li>• Explore and evaluate a range of existing textile products relevant to the project being undertaken.</li> <li>• Understand how simple 3-D textile products are made, using a template to create two identical shapes.</li> <li>• Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.</li> <li>• Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.</li> </ul>	<b>Cooking Bring on Breakfast</b> <ul style="list-style-type: none"> <li>• Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.</li> <li>• Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences.</li> <li>• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.</li> <li>• Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>.</li> </ul>	<b>Moving vehicles (Wheels and Axles)</b> <ul style="list-style-type: none"> <li>• Explore and evaluate a range of products with wheels and axles.</li> <li>• Evaluate their ideas throughout and their products against original criteria.</li> <li>• Explore and use wheels, axles and axle holders.</li> <li>• Distinguish between fixed and freely moving axles.</li> </ul>
Year 3 and 4	<b>Making a shaduf (leavers and linkages)</b> <ul style="list-style-type: none"> <li>• Order the main stages of making.</li> <li>• Investigate and analyse books and, where available, other products with lever and linkage mechanisms.</li> <li>• Evaluate their own products and ideas against criteria and user needs, as they design and make.</li> <li>• Understand and use lever and linkage mechanisms.</li> <li>• Distinguish between fixed and loose pivots.</li> </ul>	<b>Moving monsters (Pneumatics).</b> <ul style="list-style-type: none"> <li>• Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons.</li> <li>• Investigate and analyse books, videos and products with pneumatic mechanisms.</li> <li>• Understand and use pneumatic mechanisms.</li> <li>• Know and use technical vocabulary relevant to the project.</li> </ul>	<b>Cooking Be a baker (year 3)</b> <b>Lovely lunch (year 4)</b> <ul style="list-style-type: none"> <li>• Plan the main stages of a recipe, listing ingredients, utensils and equipment.</li> <li>• Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.</li> <li>• Know how to use appropriate equipment and utensils to prepare and combine food.</li> <li>• Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught.</li> </ul>
Year 5 and 6	<b>Moving Toys (cams)</b> <ul style="list-style-type: none"> <li>• Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources.</li> <li>• Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.</li> <li>• Investigate famous manufacturing and engineering companies relevant to the project.</li> <li>• Understand that mechanical systems have an input, process and an output.</li> <li>• Understand how cams can be used to produce different types of movement and change the direction of movement.</li> </ul>	<b>Cooking</b> <b>Serve a salad (year 5)</b> <b>Grab and go (year 6)</b> <ul style="list-style-type: none"> <li>• Write a step-by-step recipe, including a list of ingredients, equipment and utensils</li> <li>• Make, decorate and present the food product appropriately for the intended user and purpose.</li> <li>• Understand how key chefs have influenced eating habits to promote varied and healthy diets.</li> <li>• Understand about seasonality in relation to food products and the source of different food products.</li> </ul>	<b>Quilt (Textiles Combining different fabric shapes)</b> <ul style="list-style-type: none"> <li>• Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. .</li> <li>• Investigate and analyse textile products linked to their final product.</li> <li>• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.</li> <li>• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</li> <li>• Fabrics can be strengthened, stiffened and reinforced where appropriate.</li> </ul>