

## Design and Technology

Textiles	Structures	Mechanisms	Cooking & Nutrition	Electrical Systems	Structures with mechanisms
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	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Autumn</b>	<b>Textiles: templates and joining techniques</b> Product idea: Design a warm/sun hat for a teddy bear.	<b>Structures: Freestanding Structures</b> Product: design bridges / castles.	<b>Textiles: Crochet</b> Product:	<b>Electrical Systems: Simple circuits and Switches</b> Product: design an alarm for a vehicle (buzzer)	<b>Cooking and Nutrition 'Serve a Salad'</b>	<b>Cooking and Nutrition: Celebrating Culture and Seasonality.</b>
<b>Fundamental Knowledge</b>	Focus: -Design a functional and appealing product for a chosen user and purpose. -Generate and communicate ideas – talking, drawings -Explore and evaluate existing textile products and their own ideas and products. -Use a range of textiles, tools and equipment to perform practical tasks. -Understand how 3d textile products are made. -Use templates to make 2 identical shapes. -Use a simple joining technique – running stitch.	-Generate design ideas – modelling, explaining using talk, mock-ups and drawings. -Exploring existing freestanding structures. -Planning, making, selecting tools and materials, using finishing techniques. -Know about strengthening structures and use of gears - knowledge of vocabulary	Focus: design a functional and appealing product for a chosen user and purpose. - explore and evaluate existing textile products and their own ideas and products. - Use a range of textiles, tools and equipment to perform practical tasks. -Use crochet hooks - Learn how to crochet a chain stitch moving onto a single crochet stitch.	-Use annotated sketches, cross sectional and exploding diagrams to develop and communicate ideas. -Select and use tools with some accuracy to cut, shape, join and finish. - Use construction materials and electrical components according to their functional properties and aesthetic qualities. - Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers.	-What are the key messages from the Eatwell plate? -What role does each food group play in the diet? -Apply knowledge, experience and research findings to create a design. -Which cutting and food preparation techniques are the most appropriate for the task? -What food hygiene practices need to be taken into account?	-What are nutrients and how do you know about the nutritional values of foods? -What are the essential basic hygiene and food preparation procedures? -What is seasonality and sustainability? - Create a design based on set criteria. -Evaluate against design criteria and feedback from others.

Spring	<b>Mechanisms – wheels and axles</b> Product: invent a vehicle	<b>Textiles: Joining technique</b> Product: a puppet for performance	<b>Cooking and Nutrition</b> <b>'Be a Baker'</b>	<b>Cooking and Nutrition:</b> <b>Healthy &amp; Varied Diet.</b> <b>Product: a healthy sandwich for a family member or friend.</b>	<b>Mechanisms- Helping hands (product: an aid for the elderly)</b>	<b>Mechanical Structures:</b> Product: Building a bridge.
<b>Fundamental Knowledge</b>	<ul style="list-style-type: none"> <li>- Generate ideas and simple design criteria.</li> <li>- Develop and communicate ideas through drawing and mock-ups</li> <li>- Select a range of tools and equipment and materials to perform practical tasks.</li> <li>- Explore wheels and axles and evaluate their ideas and products against their original criteria.</li> </ul>	<ul style="list-style-type: none"> <li>-How can fabric be joined? Which is the most effective way?</li> <li>-What are the basic sewing stitches?</li> <li>-How can detail be added?</li> <li>- Explore and evaluate existing textile products and their own ideas and products.</li> <li>-Which fabric / embellishments will be most appropriate?</li> <li>- Design a functional and appealing product for a chosen user and purpose.</li> <li>- Use a range of textiles, tools and equipment to perform practical tasks.</li> <li>- Understand how 3d textile products are made.</li> <li>- Use templates to make 2 identical shapes.</li> <li>- Use a simple joining technique – running stitch</li> </ul>	<ul style="list-style-type: none"> <li>-Apply the 'ready to cook' steps.</li> <li>-Which skills are key in breadmaking?</li> <li>-Where do ingredients and different foods come from? How can you find out?</li> <li>-How can we prepare food safely and hygienically?</li> <li>-Create a design based on their research and experiences which meets their design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>-What are the meanings of the different food group proportions on The Eatwell plate?</li> <li>-Why do individuals make certain food choices?</li> <li>-What steps can be taken to make dishes 'healthier'?</li> <li>-How can we prepare food safely and hygienically?</li> <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.</li> <li>-Carry out and record evaluations of a variety of ingredients and products.</li> <li>-Know a range of appropriate ingredients, and whether they are grown, reared or caught.</li> </ul>	<ul style="list-style-type: none"> <li>-What would help aid a person who is growing older?</li> <li>- Create a design based on their research and experiences which meets their design criteria.</li> <li>-Which materials will be most appropriate for the task?</li> <li>-How will you strengthen / join the materials?</li> <li>-How will you make it suitable for someone with motor skill weakness / mobility issues / poor sight?</li> </ul>	<ul style="list-style-type: none"> <li>-How are different bridges constructed?</li> <li>-In what ways are large structures (such as bridges) able to move?</li> <li>-How are materials strengthened to ensure safety?</li> <li>-How are structures stabilised to prevent unwanted movement?</li> <li>-Use of gears or cams to support a moving bridge.</li> <li>- Create a design, based on a set criteria.</li> <li>-Use prototypes to test ideas and make adaptations to designs.</li> <li>-Use cams levers to add to your structure – movement of drawbridge?</li> </ul>

Summer	Cooking and Nutrition 'Bring on Breakfast'	Cooking and Nutrition Prepare to party.	Structure Product: wind chime	Structure Huts and structures (product: a dolls house)	Textiles: Sewing and embroidery Product:	Textiles: Product: patchwork quilt.
Fundamental Knowledge	<ul style="list-style-type: none"> <li>-Why is it important to eat breakfast?</li> <li>-What does a 'healthy diet' look like?</li> <li>-What are the main food groups and why are they important for good health?</li> <li>-design a simple dish based on simple criteria for a user and purpose.</li> </ul>	<ul style="list-style-type: none"> <li>- Food and nutrition – looking at a varied diet.</li> <li>- Generating ideas and communicate through talking, drawing</li> <li>- Select from a range of fruits.</li> <li>- Evaluating taste and preferences against original criteria.</li> <li>- Understanding where ingredients come from and that they are the basis of a healthy and varied diet.</li> </ul>	<ul style="list-style-type: none"> <li>-How is the wind used to create movement in objects?</li> <li>-Which materials will be effective for harnessing the power of the wind?</li> <li>-Which joining methods will withstand movement and the power of the wind?</li> <li>-What kind of movement do you want your sculpture to make? How will this be achieved?</li> <li>-Create a design and simple criteria for a finished project.</li> </ul>	<ul style="list-style-type: none"> <li>-What are the main features of huts and structures? How are they made?</li> <li>-Are structures different across the world / over time?</li> <li>-How are materials joined and strengthened?</li> <li>-What techniques are used to make structures stable?</li> <li>-What will the sequence of actions be to create your product?</li> </ul>	<ul style="list-style-type: none"> <li>-How can fabric be joined? Which is the most effective way?</li> <li>-What are the basic sewing stitches?</li> <li>-How can detail be added?</li> <li>-Which fabric / embellishments will be most appropriate?</li> <li>-What are the key requirements of a product to hold a tech device, and how will this differ from a cover for a non-tech device?</li> <li>-Create a set of design criteria based on research.</li> <li>- create a simple design in response to the criteria.</li> </ul>	<ul style="list-style-type: none"> <li>-What are the common features of patchwork quilts?</li> <li>-What symbolism is portrayed?</li> <li>-How can you reflect yourself through design?</li> <li>-How can fabric be joined and combined to create effects?</li> <li>-Learn and demonstrate some key stitches, including decorative embroidery stitches.</li> <li>-Create a design based on a set criteria.</li> </ul>