

Design and Technology Long Term Plan

<p>Year 1</p>	<p><u>Autumn 2</u> <u>Structures: Constructing a windmill</u> Design, decorate and build a windmill for their client to live in, developing an understanding of different types of windmill, how they work and their key features. (3 weeks)</p> <p><u>Mechanisms: Making a moving story book</u> Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story. Draw the page backgrounds, make the moving parts and assemble it. (3 weeks)</p>	<p><u>Spring 1</u> <u>Textiles: Puppets</u> Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairy tale. Develop technical skills of cutting, gluing, stapling and pinning. (4 weeks)</p>	<p><u>Spring 2</u> <u>Mechanisms: Wheels and axles</u> Learn about the main components of a wheeled vehicle; experiment with mechanisms to develop understanding of how wheels, axles and axle holders work; assume the role of a mechanic to problem-solve why wheels won't rotate; demonstrate learning by designing and building own moving vehicles. (4 weeks)</p>	<p><u>Summer 2</u> <u>Food: Fruit and vegetables</u> Handle and explore fruits and vegetables and learn how to categorise, before undertaking taste testing to establish chosen ingredients for the smoothie they will make and design packaging for. (4 lessons to be completed in Healthy Week)</p>
<p>Year 2</p>	<p><u>Autumn 2</u> <u>Mechanisms: Moving monster</u> Learn terms: pivot, lever and linkage. Design a monster that will move using a linkage mechanism. Practise making linkages of different types, apply skills to make a moving monster. (4 lessons)</p> <p><u>Mechanisms: Fairground Ride</u> Design and create Ferris wheels, considering how the different components fit together so that their wheels rotate and structures stand freely. Select appropriate materials and develop cutting and joining skills to create a final product. (2/4 lessons)</p>	<p><u>Spring 1</u> <u>Mechanisms: Fairground Ride</u> Continued... (2/4 lessons)</p> <p><u>Food: A Balanced Diet</u> Explore what makes a balanced diet, taste test food combinations of different food groups. Make a wrap that includes a healthy mix of protein, vegetables and dairy, and learn about the term 'hidden sugars. (4 lessons)</p>	<p><u>Summer 2</u> <u>Structures: Baby Bear's Chair</u> Design a chair based on client's needs. Explore ways of building it so that it is a strong and stable structure. Make and evaluate. (4 lessons)</p> <p><u>Textiles: Pouches</u> Design based on need. Make an accurate template. Cut out and join fabric using simple running stitch. Referring back to original design, use finishing techniques to improve. (3/4 lessons)</p>	
<p>Year 3</p>	<p><u>Autumn 2</u> <u>Textiles: Cushions</u> Learn to sew cross stitch and applique and then apply this to the design and creation of a cushion.</p>	<p><u>Spring 2</u> <u>Food: Eating seasonally</u> Learn about seasonality and how the climate a food is grown in can alter the way it tastes. Make a crumble and tart using seasonal ingredients.</p>	<p><u>Summer 2</u> <u>Mechanical systems: Pneumatic toys</u> Examine pneumatic systems using syringes and balloons then apply their understanding of mechanical systems to create their own pneumatic toys.</p>	

		<p><u>Structures: Constructing a castle</u> Learn more advanced construction techniques and plan for complex arrangements of structures with continual emphasis on evaluating throughout.</p>		
Year 4	<p><u>Autumn 2</u> <u>Mechanical systems: Making a slingshot car</u> Use kinetic energy to power and slingshot cars, designing and making their own and then testing their effectiveness.</p>	<p><u>Spring 2</u> <u>Structures: Pavilions</u> Be introduced to pavilion architecture. Pupils experiment with frame structures before designing their own landscape and pavilion using a wider range of materials and construction techniques.</p>	<p><u>Summer 2</u> <u>Food: Adapting a recipe</u> Adapt a recipe by adding or altering the ingredients and then work in groups to create a final design that falls within a set budget.</p> <p><u>Electrical systems: Torches</u> Be introduced to electricity and electrical safety before making a simple circuit to create a functioning torch.</p>	
Year 5	<p><u>Autumn 1</u> <u>Food: What could be healthier?</u> Adapt a bolognese recipe by adding or altering ingredients and learn about the ethical and hygienic issues of food.</p> <p><u>Electrical systems: Electrical greeting cards</u> Explore electric circuits and apply this knowledge to design and make their own electric greeting cards.</p>	<p><u>Spring 1</u> <u>Mechanical systems: Making a pop-up book</u> Utilise a range of mechanisms and construction techniques to create a pop up story book.</p>	<p><u>Summer 2</u> <u>Structures: Bridges</u> Explore and experiment with a range of different bridge structures, forces and components involved in bridge building before designing and making their own to test to destruction.</p>	
Year 6	<p><u>Autumn 2</u> <u>Food: Come dine with me</u> Work in groups to research and prepare a 3 course meal that will be taste tested and scored as well as researching the journey of their main ingredient from farm to fork.</p> <p><u>Electrical systems: Steady hand games</u> Create electromagnetic toys and more complex electronic circuits to create a steady hand game.</p>	<p><u>Spring 2</u> <u>Structures: Playgrounds</u> Have the opportunity to be creative and experiment with a wide range of equipment and materials applying prior knowledge of net and frame structures as well as bracing and cladding to design and make a playground.</p>	<p><u>Summer 1</u> <u>Mechanical systems: Automata toys</u> Develop their wood working skill and explore cams to design and make mechanical window displays.</p>	