



## Year 6

	Key Skills	Key Knowledge	Key Vocabulary
<p>Autumn 2</p> <p>Mechanisms: Automata Toys</p>	<ul style="list-style-type: none"> <li>Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement.</li> <li>Understanding how linkages change the direction of a force.</li> <li>Making things move at the same time.</li> <li>Understanding and drawing cross-sectional diagrams to show the inner-workings of my design.</li> <li>Measuring, marking and checking the accuracy of the jelutong and dowel pieces required.</li> <li>Measuring, marking and cutting components accurately using a ruler and scissors.</li> <li>Assembling components accurately to make a stable frame.</li> </ul>	<ul style="list-style-type: none"> <li>To understand that the mechanism in an automata uses a system of cams, axles and followers.</li> <li>To understand that different shaped cams produce different outputs.</li> <li>To know that an automata is a hand-powered mechanical toy.</li> <li>To know that a cross-sectional diagram shows the inner workings of a product.</li> </ul>	<ul style="list-style-type: none"> <li>accurate</li> <li>assembly-diagram</li> <li>automata</li> <li>axle</li> <li>bench hook</li> <li>cam</li> <li>clamp</li> <li>component</li> <li>cutting list</li> <li>diagram</li> <li>dowel</li> <li>drill bits</li> <li>exploded-diagram</li> <li>finish</li> <li>follower</li> <li>frame</li> <li>function</li> <li>hand drill</li> <li>jelutong</li> <li>linkage</li> <li>mark out</li> <li>measure</li> <li>mechanism</li> <li>model</li> <li>research</li> <li>right-angle</li> </ul>

	<ul style="list-style-type: none"> <li>• Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles.</li> <li>• Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set.</li> <li>• Evaluating the work of others and receiving feedback on own work.</li> <li>• Applying points of improvement to their toys.</li> <li>• Describing changes they would make/do if they were to do the project again.</li> </ul>		<ul style="list-style-type: none"> <li>• set square</li> <li>• tenon saw</li> </ul>
<p>Spring 2</p> <p>Structures: Bridges</p>	<ul style="list-style-type: none"> <li>• Designing a stable structure that is able to support weight.</li> <li>• Creating a frame structure with focus on triangulation.</li> <li>• Making a range of different shaped beam bridges.</li> <li>• Using triangles to create truss bridges that span a</li> </ul>	<ul style="list-style-type: none"> <li>• To understand some different ways to reinforce structures.</li> <li>• To understand how triangles can be used to reinforce bridges.</li> <li>• To know that properties are words that describe the form and function of materials.</li> </ul>	<ul style="list-style-type: none"> <li>• beam bridge</li> <li>• arch bridge</li> <li>• truss bridge</li> <li>• strength</li> <li>• technique</li> <li>• corrugation</li> <li>• lamination</li> <li>• stiffness</li> <li>• rigid</li> <li>• factors</li> <li>• stability</li> </ul>

	<p>given distance and support a load.</p> <ul style="list-style-type: none"> <li>• Building a wooden bridge structure.</li> <li>• Independently measuring and marking wood accurately.</li> <li>• Selecting appropriate tools and equipment for particular tasks.</li> <li>• Using the correct techniques to saw safely.</li> <li>• Identifying where a structure needs reinforcement and using card corners for support.</li> <li>• Explaining why selecting appropriate materials is an important part of the design process.</li> <li>• Understanding basic wood functional properties.</li> <li>• Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary.</li> <li>• Suggesting points for improvements for own bridges and those designed by others.</li> </ul>	<ul style="list-style-type: none"> <li>• To understand why material selection is important based on their properties.</li> <li>• To understand the material (functional and aesthetic) properties of wood.</li> </ul>	<ul style="list-style-type: none"> <li>• visual appeal</li> <li>• aesthetics</li> <li>• joints</li> <li>• mark out</li> <li>• hardwood</li> <li>• softwood</li> <li>• wood file/rasp</li> <li>• sandpaper/glasspaper</li> <li>• bench hook/vice</li> <li>• tenon saw/coping saw</li> <li>• assemble</li> <li>• material properties</li> <li>• reinforce</li> <li>• wood sourcing</li> <li>• evaluate</li> <li>• quality of finish</li> <li>• accuracy</li> </ul>
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<p>Summer 2</p> <p>Electrical Systems: Doodlers</p>	<ul style="list-style-type: none"> <li>• Identifying factors that could be changed on existing products and explaining how these would alter the form and function of the product.</li> <li>• Developing design criteria based on findings from investigating existing products.</li> <li>• Developing design criteria that clarifies the target user.</li> <li>• Altering a product's form and function by tinkering with its configuration.</li> <li>• Making a functional series circuit, incorporating a motor.</li> <li>• Constructing a product with consideration for the design criteria.</li> <li>• Breaking down the construction process into steps so that others can make the product.</li> <li>• Carry out a product analysis to look at the purpose of a product along with its strengths and weaknesses.</li> </ul>	<ul style="list-style-type: none"> <li>• To know that, in a series circuit, electricity only flows in one direction.</li> <li>• To know when there is a break in a series circuit, all components turn off.</li> <li>• To know that an electric motor converts electrical energy into rotational movement, causing the motor's axle to spin.</li> <li>• To know a motorised product is one which uses a motor to function.</li> </ul>	<ul style="list-style-type: none"> <li>• circuit component</li> <li>• configuration</li> <li>• current</li> <li>• develop</li> <li>• DIY</li> <li>• investigate</li> <li>• motor</li> <li>• motorised</li> <li>• problem solve</li> <li>• product analysis</li> <li>• series circuit</li> <li>• stable</li> <li>• target user</li> </ul>
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	<ul style="list-style-type: none"> <li>• Determining which parts of a product affect its function and which parts affect its form.</li> <li>• Analysing whether changes in configuration positively or negatively affect an existing product.</li> <li>• Peer evaluating a set of instructions to build a product.</li> </ul>		
<p>Health Week</p> <p>Come dine with me</p>	<ul style="list-style-type: none"> <li>• Writing a recipe, explaining the key steps, method and ingredients.</li> <li>• Including facts and drawings from research undertaken.</li> <li>• Following a recipe, including using the correct quantities of each ingredient.</li> <li>• Adapting a recipe based on research.</li> <li>• Working to a given timescale.</li> <li>• Working safely and hygienically with independence.</li> <li>• Evaluating a recipe, considering: taste, smell,</li> </ul>	<ul style="list-style-type: none"> <li>• To know that 'flavour' is how a food or drink tastes.</li> <li>• To know that many countries have 'national dishes' which are recipes associated with that country.</li> <li>• To know that 'processed food' means food that has been put through multiple changes in a factory.</li> <li>• To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</li> <li>• To understand what happens to a certain food before it appears on the</li> </ul>	<ul style="list-style-type: none"> <li>• equipment</li> <li>• flavours</li> <li>• ingredients</li> <li>• method</li> <li>• research</li> <li>• recipe</li> <li>• bridge method</li> <li>• cookbook</li> <li>• cross-contamination</li> <li>• farm to fork</li> <li>• preparation</li> <li>• storyboard</li> </ul>

	<p>texture and origin of the food group.</p> <ul style="list-style-type: none"><li>• Taste testing and scoring final products.</li><li>• Suggesting and writing up points of improvements in productions.</li><li>• Evaluating health and safety in production to minimise cross contamination.</li></ul>	<p>supermarket shelf (Farm to Fork).</p>	
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