



National Curriculum Design and Technology

National Curriculum				
Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
<p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at individuals or groups. D1</p> <p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. D2</p>	<p>Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. M1</p> <p>Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. M2</p>	<p>Investigate and analyse a range of existing products. E1</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. E2</p> <p>Understand how key events and individuals in design and technology have helped shape the world. E3</p>	<p>Apply their understanding of how to strengthen, stiffen and reinforce more complex structures T1</p> <p>Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] T2</p> <p>Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] T3</p> <p>Apply their understanding of computing to program, monitor and control their products. T4</p>	<p>Understand and apply the principles of a healthy and varied diet. N1</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. N2</p> <p>Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. N3</p>

	Year 3	Year 4	Year 5	Year 6
Autumn Term	Mechanical systems- pneumatic toys- option 1	Cooking and nutrition: Adapting a recipe (biscuits)	Mechanical Structures- pop up books	Textiles- bag
	<p>To explore how pneumatic systems create movement within mechanisms.</p> <p>To use different types of diagrams to summarise information</p> <p>To design a toy that uses a pneumatic system.</p> <p>To create a pneumatic system for a moving toy.</p> <p>To test and finalise ideas against design criteria.</p>	<p>To evaluate existing biscuit products (including taste, texture and appearance)</p> <p>To prepare and cook a dish- following a recipe (with support)</p> <p>To select ingredients and follow a budget.</p> <p>To take inspiration from existing products.</p> <p>To make and test a prototype biscuit</p> <p>To evaluate a final product.</p>	<p>To design a pop-up book.</p> <p>To follow my design brief to make my popup book.</p> <p>To use layers and spacers to cover the working of mechanisms.</p> <p>To create a high-quality product suitable for a target user.</p>	<p>To design a bag with an applique.</p> <p>To use a template to mark and cut fabric according to a design.</p> <p>To assemble a bag using running and blanket stitches.</p> <p>To attach and secure fastening as well as decorative objects.</p> <p>To evaluate their final product.</p>
	<p>National Curriculum Coverage</p> <p>D1, D2, M1, M2, E1, E2, E3, T2</p>	<p>National Curriculum Coverage</p> <p>D1, D2, M1, M2, E1, E2, N2</p>	<p>National Curriculum Coverage</p> <p>D1, D2, M1, M2, E1, E2, T1, T2,</p>	<p>National Curriculum Coverage</p> <p>D1, D2, M1, M2, E2</p>

Spring Term	Electrical systems- electronic poster Romas shields- art?	Textiles- Bookmarks	Structure- bridges	Structure- the playground
	<p>To understand the purpose of information design.</p> <p>To research a set topic (Ancient Romans) to develop a range of initial ideas.</p> <p>To develop an initial idea into a final design</p> <p>To assemble an electric poster and incorporate a simple circuit.</p> <p>To test and evaluate their electric posters in a letter to the client.</p>	<p>To explain the advantages and disadvantages of different types of fastening type.</p> <p>To design a product to meet design criteria.</p> <p>To make and test a paper template.</p> <p>To assemble a bookmark, using an stitch that they are comfortable with.</p>	<p>To explore how to reinforce a beam (structure) to improve its strength.</p> <p>To build a spaghetti truss bridge.</p> <p>To build a wooden truss bridge.</p> <p>To complete, reinforce and evaluate my truss bridge.</p>	<p>To design a playground with a variety of structures.</p> <p>To build a range of structures.</p> <p>To improve and add detail to structures.</p> <p>To create a surrounding landscape.</p>
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Summer Term	Textiles- Egyptian scrolls and collars	Mechanical systems- slingshot car (new option available)	Textiles- stuffed toys	Cooking and Nutrition- energy bars (not Kapow) & Electrical Systems (Steady Hand Game).
	<p>To learn how to sew crossstitch and appliqué to both join and decorate fabric.</p> <p>To develop and use a template for an usekh or weskh collar.</p> <p>To assemble fabric parts into a fabric product- including measuring and attaching ribbon with a running stitch.</p> <p>To decorate fabric using appliqué and cross-stitch, beads, buttons or pinking.</p> <p>To explain some of the aesthetic and functional properties of some of their material choices.</p>	<p>To build an accurate, functioning car chassis.</p> <p>To design a shape that reduces air resistance.</p> <p>To make a model based on a chosen design which includes panels which fit the chassis and can be assembled using the tabs.</p> <p>To assemble a car body effectively.</p> <p>To test my completed product and draw conclusions and improvements from the results.</p>	<p>To design a stuffed toy., considering the main component shapes of their toy.</p> <p>To create an appropriate template for their stuffed toy.</p> <p>To join pieces of fabric using the blanket stitch.</p> <p>To create the toy and add decorations to fabric- using applique or decorative stitching.</p> <p>To identify what worked well and areas for improvement.</p>	<p>To research and analyse existing recipes for healthy energy bars.</p> <p>To write an alternative recipe (based on research) explaining the key steps, method and ingredients.</p> <p>To design a package for the energy bar.</p> <p>To follow a recipe, including measuring the correct quantities.</p> <p>To taste test and score the product- evaluating the taste, smell, texture and origin of the food group.</p> <hr/> <p>To research and analyse a range of children's toys.</p> <p>To design a steady hand game.</p> <p>To construct a stable base.</p> <p>To assemble electronics and complete their electronic game.</p>
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