



INSPIRE

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# CURRICULUM

## Design & Technology



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## Intent

The National Curriculum for Design and Technology states that the subject is “inspiring, rigorous and practical”. Design and Technology aims to allow children to use their imagination and creativity to design and make a range of products within a variety of contexts. Children will build and apply the knowledge and skills needed to design high quality products. They are given the opportunity to understand nutrition and learn how to cook in every year group, as we believe it is vital that our children learn healthy food habits early and grow to develop positive relationships with food and nutrition.

Design and Technology requires children to draw on skills within Mathematics, Art, Science and Computing. Children will deepen their understanding and independence within all of these subject areas during their Design and Technology lessons.

Children are given regular opportunities to develop their understanding of the technological world. We will evaluate past and present design and technology and the ways that these have influenced modern society. This will allow our children to have a more critical approach to their own designs and creations.

Throughout their time at our school children will be encouraged to take risks when designing and making their products. Lessons will be hands on and engaging, with the children having access to lots of resources and materials. They will be encouraged to think critically in order to evaluate their past prototypes and when testing their current designs. This will allow the children to build upon their artistic skills and become more resourceful.

We want the children at our school to develop their imagination, their critical thinking and their understanding of the world around them through their love of Design and Technology. We aim for our children to question and think innovatively about the world around them in order to design and develop their own products with a purpose in mind.

## Breadth of Study

The following is the breadth of study that our pupils will cover from Year One through to Year Six. All statutory requirements taken from the National Curriculum are included, and some of the content has been supported by Kapow Primary – Videos, additional planning and resources to support units can be found on [www.kapowprimary.com](http://www.kapowprimary.com), accessed only using allocated username and passwords.

Key Stage 1	Key Stage 2
<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts, such as the home and school, gardens and playgrounds, the local community, industry and the wider environment.</p> <p>When designing and making, pupils should be taught to:</p> <p><b>Design</b> design purposeful, functional, appealing products for themselves and other users based on design criteria. generate develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p><b>Make</b> select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing. select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p><b>Evaluate</b> explore and evaluate a range of existing products. evaluate their ideas and products against design criteria.</p> <p><b>Technical knowledge</b> build structures, exploring how they can be made stronger, stiffer and more stable. explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.</p> <p><b>Cooking and nutrition</b> use the basic principles of a healthy and varied diet to prepare dishes. understand where food comes from.</p>	<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment.</p> <p>When designing and making, pupils should be taught to:</p> <p><b>Design</b> use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups. generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p><b>Make</b> select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately. 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.</p> <p><b>Evaluate</b> investigate and analyse a range of existing products. evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. understand how key events and individuals in design and technology have helped shape the world</p> <p><b>Technical knowledge</b> apply their understanding of how to strengthen, stiffen and reinforce more complex structures. understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages. understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors. apply their understanding of computing to programme, monitor and control their products.</p> <p><b>Cooking and nutrition</b> understand and apply the principles of a healthy and varied</p>

# Design & Technology

## Whole School Coverage

The following grid shows the coverage of D&T units across the Primary age range at our school. Each unit has been carefully and progressively planned to build upon pupil's knowledge of Design & Technology.

	Autumn Term	Spring Term	Summer Term
Year 1	<b>Cooking &amp; Nutrition</b> Fruit & Vegetables: Making Smoothies	<b>Mechanisms</b> Wheels & axels	<b>Structures</b> Windmills
Year 2	<b>Cooking &amp; Nutrition</b> A Balanced Diet: Making wraps	<b>Structures</b> Design & Make a chair for a toy	<b>Textiles</b> Pouches
Year 3	<b>Cooking &amp; Nutrition</b> Eating Seasonally: Savoury Tarts	<b>Mechanisms</b> Pneumatic toys	<b>Textiles</b> Cushions
Year 4	<b>Cooking &amp; Nutrition</b> Adapting a Recipe: Making biscuits	<b>Mechanisms</b> Slingshot Cars	<b>Electrical systems</b> Torches
Year 5	<b>Cooking &amp; Nutrition</b> What could be Healthier? Making Bolognese sauce	<b>Structures</b> Bridges	<b>Textiles</b> Stuffed Toys
Year 6	<b>Cooking &amp; Nutrition</b> Come Dine with Me Design & Make a 3-course Meal	<b>Mechanisms</b> Automata Toys	<b>Electrical Systems</b> Steady hand Games



Design & Tech Concepts/ skills	Knowledge Categories	KS1						LKS2						UKS2					
		Year 1			Year 2			Year 3			Year 4			Year 5			Year 6		
		Fruit & Vegetables	Wheels & Axels	Windmills	A Balanced Diet	Making a chair	Pouches	Eating Seasonally	Pneumatic Toys	Cushions	Adapting a Recipe	Slingshot Cars	Torches	What could be healthier?	Bridges	Stuffed toys	Come Dine with me	Automata Toys	Steady Hand Games
<b>Design, Make, Evaluate &amp; Technical Knowledge</b> all run through each unit; with <b>cooking and nutrition</b> as the focus of one unit per year.	Cooking & Nutrition	■			■			■			■			■			■		
	Mechanisms		■					■			■							■	
	Structures			■		■								■					
	Textiles						■			■					■				
	Electrical Systems											■							■