

DT

- National Curriculum
- Projects and Beacons



“Learn. Believe. Achieve.”
*Resilient, Persistent, Self-Motivated, Creative
 Risk Takers, Good Citizens, Entrepreneurial*

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook

KS1 National Curriculum

Design

- 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

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, 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

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

Cooking and Nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

KS2 National Curriculum

Design

- 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

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, 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

Evaluate

- 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

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

DT Curriculum Statement of Intent:

We have high ambition for all our children to flourish in today’s technological and design rich society. We aim to inspire them to be innovative and inventive thinkers. Our children have the opportunity to develop entrepreneurial skill-sets through aspirational projects linked to real professions, iconic structures and influential role models.

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EYFS	Exploring and using media and materials: Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Being imaginative: Use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.		Moving and handling: Handle equipment and tools effectively, including pencils for writing.	Cultural Awareness Wherever possible, we make cultural links to other curriculum areas. For example, famous structures in the UK and other countries and aspirational role-models from the world of design technology. We explore products that we use in the real world and their connection to our culture past, present and future.
Year 1	Paper Product Project Provide opportunity for pupils to cut, shape and join a wide range of paper-based materials Eg) design and create a high-quality Celebration card	Builder Project Provide opportunity for pupils to select and use construction materials to build a structure Eg) Lego building	Wheels Project Provide opportunity for pupils to explore and use wheels and axles Eg) design and create a vehicle/imaginary creature/robot	Food Project Prepare a healthy savoury dish	
Year 2	Textiles Product Project Provide opportunity for pupils to cut, shape and join a wide range of textiles Eg) Design and create a high-quality flag/fashion accessory	Architect Project Provide opportunity for pupils to design and build a structure with a specific purpose Eg) an underwater building bug hotel	Levers Project Provide opportunity for pupils to explore and use levers and sliders Eg) design and create a moving picture/puppet	Food Project Prepare a healthy unsavoury dish	
Year 3	Pivot Product Project Provide opportunity for pupils to design and create a quality product using linkage Eg) Moving paper puppet	Ironworker Project Provide opportunity for pupils to construct a quality structure using wire Eg) Iron Age jewellery	Mechanic Project Provide opportunity for pupils to explore and build with gears and pulleys Eg) fairground ride/working well/tree-house delivery system	Food Project Plan and prepare a healthy savoury dish and explain where the ingredients come from	
Year 4	Fashion Designer Project Provide opportunity for pupils to design and create a quality product using textiles, including developing pattern pieces Eg) design and create clothes for a teddy	Carpentry Project Provide opportunity for pupils to construct a quality structure using wood as a frame Eg) a shelter/tree house	Electrician Project Provide opportunity for pupils to explore and build with circuits, bulbs, buzzers and switches Eg) torch	Food Project Plan and prepare a healthy savoury dish and explain where the ingredients come from	
Year 5	Inventor Project Provide opportunity for pupils to develop a prototype with a specific function, communicating their ideas through annotated sketches and diagrams Eg) design a toy/gadget	Structural Engineer Project Provide opportunity for pupils to design and build a quality complex structure focusing on strength Eg) a bridge	Mechanical Engineer Project Provide opportunity for pupils to explore and build with cams and levers Eg) moving toy	Food Project Explore calories and nutritional value of food; plan and prepare a healthy savoury dish using seasonal ingredients	
Year 6	Product Design Project Provide opportunity for pupils to model and communicate their ideas through computer-aided designs Eg) use design software (Tinkercad)	Architect Project Provide opportunity for pupils to design and build a quality complex structure using their choice of appropriately selected materials	Electrical Engineer Project Provide opportunity for pupils to explore and build with circuits and motors Eg) spinning solar system/spinning carousel	Food Project Explore calories and nutritional value of food; plan and prepare a healthy unsavoury dish using seasonal ingredients	

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		Key Skills and Knowledge			
		Beacon 1	Beacon 2	Beacon 3	
Knowledge		<ul style="list-style-type: none"> • Name a range of mechanisms • Use key vocabulary to design and evaluate 	<ul style="list-style-type: none"> • Name a wide range of mechanisms • Use key vocabulary to design and evaluate 	<ul style="list-style-type: none"> • Name a wide range of mechanisms • Use key vocabulary to design and evaluate 	
		Understand the following key vocabulary:	Understand the following key vocabulary:	Understand the following key vocabulary:	
		lever: slider: wheel: axel: stronger: stiffer: stable: structure: mechanism: material:	healthy diet: varied diet: product: diagram: textile: design: joining: cutting: shaping: finishing:	model: structural integrity: durability: reliability: strength: pivot: frame: quality: gear: pulley:	series circuit: bulb: switch: buzzer: seasonality: reared: processed: annotated sketches: cross-sectional diagram:
Skills		<ul style="list-style-type: none"> • Design a product based on design-criteria • Communicate ideas through talking and simple drawings/diagrams • Select from and use a range of tools and equipment to perform practical tasks • Evaluate ideas and products against design criteria • I know the difference between healthy and unhealthy snacks • I can prepare a dish using my knowledge of a healthy and varied diet 	<ul style="list-style-type: none"> • Develop your own design criteria to meet a design brief • Communicate ideas through annotated sketches and cross-sectional diagrams • Accurately use tools and equipment to perform practical tasks • Evaluate ideas and products against their own design criteria • I can explain the importance of a healthy diet and how it supports my physical and mental wellbeing • I can plan and prepare a healthy snack • Describe where a variety of ingredients are grown, reared, caught and processed 	<ul style="list-style-type: none"> • Research target groups and existing products to inform your own design criteria • Communicate ideas through a range of means, including exploded diagrams • Accurately use a wide range of tools and equipment to perform practical tasks • Consider the views of others when evaluating ideas and products • I can use calories and nutritional content to describe what constitutes a healthy diet • I can describe ways in which diet can have both positive and negative effects on my health and wellbeing • I can make healthy and varied choices when planning dishes • I can discuss how seasonality impacts on the variety and availability of ingredients 	