

Beaconhill Primary Design and Technology Intent

A Designer in Technology at Beaconhill Primary School should have...

- Levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out research, show initiative and evaluate their own design choices to develop a detailed knowledge of users' needs.
- The ability to improve and edit where required, demonstrating resilience and a willingness to perfect their work.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials are needed to make their products fulfil their purpose.
- The ability to apply cross curricular knowledge in their work where necessary (especially mathematical and artistic skills).
- A passion for the subject and knowledge of up-to-date technological innovations in materials, products and systems.





Design and Technology Overview

This curriculum map ensures that skills, knowledge and understanding are developed systematically across the beach curriculum.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key Stage 1	Food Technology – 2 year rolling programme. 1. Brainy Breakfasts (odd years) 2. Perfect Pizzas (even years)		Puppets (Materials and Textiles) (even years)		Structures and Mechanisms – 2 year rolling programme. 1. Bridges (even years) 2. Moving Stories (odd years)	
Year 3	Sandwiches		Packaging (Structures)		Tie Dye	
Year 4	Loch Ness Monster		Electrical Systems		Scones	
Year 5	Flapjacks		Moving Parts		Beach bags	
Year 6	Fajitas		Ancient Mayans: Textiles and Weaving		Fairground Structure and Electrical Systems	

Design Technology Curriculum Map

This curriculum map ensures that skills, knowledge and understanding are developed systematically across a subject.

	Autumn term	Spring term	Summer term
Year 1	Food: Brainy Breakfasts/ Perfect Pizzas Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria Cooking and Nutrition <ul style="list-style-type: none"> use the basic principles of a healthy and varied diet to prepare dishes 	Puppets Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria 	Bridges Moving Stories Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria Technical knowledge <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and

	<ul style="list-style-type: none"> understand where food comes from. 		<p>more stable</p> <ul style="list-style-type: none"> explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products
Year 2	<p>Food: Brainy Breakfasts/ Perfect Pizzas</p> <p>Design</p> <ul style="list-style-type: none"> 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>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Cooking and Nutrition</p>	<p>Materials & textiles/ Puppets</p> <p>Design</p> <ul style="list-style-type: none"> 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>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria 	<p>Strong Structures/ Moving Stories</p> <p>Design</p> <ul style="list-style-type: none"> 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>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> explore and evaluate a range of existing products evaluate their ideas and products against design criteria <p>Technical knowledge</p> <ul style="list-style-type: none"> build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [for

	<ul style="list-style-type: none"> • use the basic principles of a healthy and varied diet to prepare dishes • understand where food comes from. 		example, levers, sliders, wheels and axles], in their products.
Year 3	Food: Sandwiches Design <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 	Packaging (Structures) Design <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 	Mechanisms Design <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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

	<p>construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> 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>Cooking and Nutrition</p> <ul style="list-style-type: none"> 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 	<p>construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> 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>Technical knowledge</p> <ul style="list-style-type: none"> 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] 	<p>ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> 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
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Year 4	Loch Ness Monster <p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • 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 <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products 	Electrical Systems <p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • 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 <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products 	Food: Scones <p>Design</p> <ul style="list-style-type: none"> • 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>Make</p> <ul style="list-style-type: none"> • 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 <p>Evaluate</p> <ul style="list-style-type: none"> • investigate and analyse a range of existing products
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	<ul style="list-style-type: none"> • 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>Technical knowledge</p> <ul style="list-style-type: none"> ▪ apply their understanding of how to strengthen, stiffen and reinforce more complex structures 	<ul style="list-style-type: none"> • 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>Technical knowledge</p> <ul style="list-style-type: none"> • apply their understanding of how to strengthen, stiffen and reinforce more complex structures • understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] 	<ul style="list-style-type: none"> • 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>Cooking and Nutrition</p> <ul style="list-style-type: none"> • 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
Year 5	<p>Food: Flapjacks</p> <p>Design</p> <ul style="list-style-type: none"> • 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 	<p>Moving Parts</p> <p>Design</p> <ul style="list-style-type: none"> • use research and develop design criteria to inform the design of innovative, functional, appealing products which involve movement • develop products which are fit for purpose, aimed at particular individuals or groups 	<p>Beach Bags</p> <p>Design</p> <ul style="list-style-type: none"> • 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

	<p>groups</p> <ul style="list-style-type: none"> generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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>Cooking and Nutrition</p>	<ul style="list-style-type: none"> generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional or exploded diagrams and prototypes <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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>Technical knowledge</p> <ul style="list-style-type: none"> understand and use the properties of materials and the performance of structural elements to achieve functioning solutions understand how more advanced 	<ul style="list-style-type: none"> generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> 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 <p>Evaluate</p> <ul style="list-style-type: none"> 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>Technical knowledge</p> <ul style="list-style-type: none"> apply their understanding of how to
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	<ul style="list-style-type: none"> 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 	mechanical systems used in their products enable changes in movement and force	strengthen, stiffen and reinforce more complex structures
Year 6	Food – Fajitas Design <ul style="list-style-type: none"> 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 Make <ul style="list-style-type: none"> 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 	Ancient Mayans: Textiles and Weaving Design <ul style="list-style-type: none"> 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 inspired by the creations of the Mayan people generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design where appropriate Make <ul style="list-style-type: none"> select from and use a wider range of 	Fairground Structures and Electrical Systems Design <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing],

	<p>materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> 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 <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> 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 	<p>tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <ul style="list-style-type: none"> 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>Evaluate</p> <ul style="list-style-type: none"> 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>accurately</p> <ul style="list-style-type: none"> 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>Evaluate</p> <ul style="list-style-type: none"> 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>Technical knowledge</p> <ul style="list-style-type: none"> understand and use the properties of materials and the performance of structural elements to achieve functioning solutions understand how more advanced mechanical systems used in their products enable changes in movement and force
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