

## **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
<b>Key Stage 1</b>	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)	
<b>Year 3</b>	Sandwiches		Catapults		Tie Dye	
<b>Year 4</b>	Loch Ness Monster		Torches and Electrical Systems		Scones	
<b>Year 5</b>	Flapjacks		Moving Parts		Beach bags	
<b>Year 6</b>	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
<b>Year 1</b>	<b>Food:</b> <b>Brainy Breakfasts/</b> <b>Perfect Pizzas</b>  Design <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> Evaluate <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul> Cooking and Nutrition <ul style="list-style-type: none"> <li>use the basic principles of a healthy and varied diet to prepare dishes</li> </ul>	<b>Puppets</b>  Design <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> Evaluate <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul>	<b>Bridges</b> <b>Moving Stories</b>  Design <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> Evaluate <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul> Technical knowledge <ul style="list-style-type: none"> <li>build structures, exploring how they can be made stronger, stiffer and</li> </ul>

	<ul style="list-style-type: none"> <li>understand where food comes from.</li> </ul>		<p>more stable</p> <ul style="list-style-type: none"> <li>explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products</li> </ul>
<b>Year 2</b>	<p><b>Food:</b> <b>Brainy Breakfasts/</b> <b>Perfect Pizzas</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul> <p>Cooking and Nutrition</p>	<p><b>Materials &amp; textiles/</b> <b>Puppets</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul>	<p><b>Strong Structures/</b> <b>Moving Stories</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</li> <li>select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>explore and evaluate a range of existing products</li> <li>evaluate their ideas and products against design criteria</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>explore and use mechanisms [for</li> </ul>

	<ul style="list-style-type: none"> <li>use the basic principles of a healthy and varied diet to prepare dishes</li> <li>understand where food comes from.</li> </ul>		example, levers, sliders, wheels and axles], in their products.
<b>Year 3</b>	<b>Food: Sandwiches</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>select from and use a wider range of materials and components, including</li> </ul>	<b>Catapults</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>select from and use a wider range of materials and components, including</li> </ul>	<b>Tie Dye</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>select from and use a wider range of materials and components, including</li> </ul>

	<p>construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> <li>understand and apply the principles of a healthy and varied diet</li> <li>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>	<p>construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> </ul>	<p>construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Year 4	Loch Ness Monster	Torches	Food: Scones
	<p>Design</p> <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> </ul>	<p>Design</p> <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> </ul>	<p>Design</p> <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> </ul>

	<ul style="list-style-type: none"> <li>• evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>▪ apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> </ul>	<ul style="list-style-type: none"> <li>• evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>• apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> </ul>	<ul style="list-style-type: none"> <li>• evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>• understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> <li>• understand and apply the principles of a healthy and varied diet</li> <li>• prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>• understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>
<b>Year 5</b>	<p><b>Food: Flapjacks</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>	<p><b>Moving Parts</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>• use research and develop design criteria to inform the design of innovative, functional, appealing products which involve movement</li> <li>• develop products which are fit for purpose, aimed at particular individuals or groups</li> </ul>	<p><b>Beach Bags</b></p> <p>Design</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>



	<p>groups</p> <ul style="list-style-type: none"> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products.</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Cooking and Nutrition</p>	<ul style="list-style-type: none"> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional or exploded diagrams and prototypes</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</li> <li>understand how more advanced</li> </ul>	<ul style="list-style-type: none"> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p>Make</p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products.</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>apply their understanding of how to</li> </ul>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<ul style="list-style-type: none"> <li>understand and apply the principles of a healthy and varied diet</li> <li>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>	mechanical systems used in their products enable changes in movement and force	strengthen, stiffen and reinforce more complex structures
<b>Year 6</b>	<b>Food – Fajitas</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</li> <li>select from and use a wider range of</li> </ul>	<b>Ancient Mayans: Textiles and Weaving</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, prototypes, pattern pieces and computer-aided design where appropriate</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of</li> </ul>	<b>Fairground Structures and Electrical Systems</b>  Design <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> Make <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing],</li> </ul>

	<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"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> </ul> <p>Cooking and Nutrition</p> <ul style="list-style-type: none"> <li>understand and apply the principles of a healthy and varied diet</li> <li>prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>	<p>tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <ul style="list-style-type: none"> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products.</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul>	<p>accurately</p> <ul style="list-style-type: none"> <li>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</li> </ul> <p>Evaluate</p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>understand how key events and individuals in design and technology have helped shape the world</li> </ul> <p>Technical knowledge</p> <ul style="list-style-type: none"> <li>understand and use the properties of materials and the performance of structural elements to achieve functioning solutions</li> <li>understand how more advanced mechanical systems used in their products enable changes in movement and force</li> </ul>
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## Design and Technology Skills Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Design</b>	<ul style="list-style-type: none"> <li>• Generate new ideas using prior knowledge.</li> <li>• Design products with a purpose in mind.</li> <li>• Consider who the product is for.</li> <li>• Explain how their product will work and discuss simple annotated drawings.</li> <li>• Explore ideas using drafts and testing materials.</li> <li>• Understand and follow simple design criteria.</li> </ul>		<ul style="list-style-type: none"> <li>• Generate new ideas using their knowledge of a broad range of existing products.</li> <li>• Design exciting and appealing products with a specific purpose and audience.</li> <li>• Identify design features to appeal to an audience.</li> <li>• Use annotated sketches and cross-sectional drawings to communicate how a product will work.</li> <li>• Explore ideas using drafts and prototypes before deciding on a final design.</li> <li>• Explain why materials are chosen and justify functional and aesthetic choices.</li> <li>• Use CAD to develop and communicate ideas where appropriate. <ul style="list-style-type: none"> <li>• Understand and follow more complex design criteria.</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>• Generate new and innovate ideas using their prior knowledge of a range of existing products.</li> <li>• Design exciting and appealing products with a specific purpose and indicate the features which will appeal to their target market.</li> <li>• Use annotated sketches, cross-sectional drawings and CAD where appropriate to communicate how a product will work.</li> <li>• Explore ideas using drafts and prototypes before clearly communicating a final design.</li> <li>• Explain why materials are chosen and justify functional and aesthetic choices.</li> <li>• Consider the availability and costing of resources when planning and making. <ul style="list-style-type: none"> <li>• Use research to inform and develop detailed design criteria to inform the design of high-quality products which are fit for purpose.</li> </ul> </li> </ul>	
<b>Make</b>	<ul style="list-style-type: none"> <li>• Follow a simple plan or recipe with support.</li> <li>• Begin to select equipment to perform a function safely e.g. scissors, zesters, juicers, knives (butter).</li> <li>• Select materials for a particular task based on their properties.</li> <li>• Follow hygiene procedures.</li> <li>• Use a range of materials and components.</li> <li>• Assemble, cut, shape, join and combine materials, components or ingredients to create a product.</li> <li>• Cut, join, score with some accuracy.</li> <li>• Use a basic running stitch.</li> <li>• Cut, peel and grate, weigh and measure ingredients where appropriate.</li> <li>• Begin to use simple finishing techniques to improve product aesthetics.</li> </ul>		<ul style="list-style-type: none"> <li>• Follow step by step instructions with assistance where required.</li> <li>• With growing confidence, carefully select from a range of tools and equipment to perform a function safely and explaining their choices.</li> <li>• Follow hygiene procedures.</li> <li>• Select materials for a task based on their functional properties and aesthetic qualities.</li> <li>• Use a wider range of materials and components including textile kits and electrical components.</li> <li>• Improve upon practical skills such as: cutting, joining and assembling and ensure accuracy throughout.</li> <li>• With growing independence, measure to the nearest cm and mm.</li> <li>• Cut, shape and score materials with increasing accuracy.</li> <li>• Cut, peel and grate with increased independence including weighing and measuring ingredients where appropriate.</li> </ul> <p>Begin to select appropriate finishing techniques to improve product aesthetics e.g. hemming, tie-dye, fabric paints and digital graphics.</p>		<ul style="list-style-type: none"> <li>• Independently plan by suggesting what to do next.</li> <li>• With confidence, carefully select from a range of tools and equipment to perform a function safely and explaining their choices.</li> <li>• Follow hygiene procedures.</li> <li>• Carefully select materials for a task based on their functional properties and aesthetic qualities.</li> <li>• Use a wide range of materials and components including textile kits and electrical components.</li> <li>• Improve upon practical skills such as: cutting, joining and assembling and ensure accuracy throughout.</li> <li>• Independently and accurately, measure to the nearest cm and mm.</li> <li>• Cut, shape and score a range of materials with precision and accuracy.</li> <li>• Assemble, join and combine materials and components with accuracy.</li> <li>• Demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product.</li> <li>• Join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch.</li> <li>• Refine the finish using techniques to improve the appearance of their product, such as sanding, or a more precise scissor cut after roughly cutting out a shape.</li> </ul> <p>Select appropriate finishing techniques to improve product aesthetics e.g. hemming, tie-dye, fabric paints and digital graphics.</p>	

<b>Evaluate</b>	<ul style="list-style-type: none"> <li>Explore and evaluate existing products through discussing and comparing.</li> <li>Create simple written evaluations explaining positives and negatives about the product. <ul style="list-style-type: none"> <li>Explore the materials products are made from.</li> <li>Talk about design ideas and what they are making. <ul style="list-style-type: none"> <li>Suggest ways they could improve their work.</li> <li>Use design criteria to evaluate a product.</li> </ul> </li> </ul> </li> <li>Start to understand that some steps in the design process need to be repeated.</li> </ul>	<ul style="list-style-type: none"> <li>Explore and evaluate existing products by discussing utility and whether it fulfils its purpose.</li> <li>Create more detailed written evaluations explaining positives and negatives about the product.</li> <li>Explore the materials products are made from and suggest reasons for this.</li> <li>Consider design criteria and be willing to alter plans based on reflection and feedback. <ul style="list-style-type: none"> <li>Evaluate a product against design criteria.</li> </ul> </li> <li>Evaluate key developments and the work of designers that have helped to shape the world.</li> </ul>	<ul style="list-style-type: none"> <li>Explore and evaluate existing products in detail and establish a unique selling point.</li> <li>Critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make.</li> <li>Evaluate ideas and products against their original design criteria, making changes as needed.</li> </ul>
<b>Technical Knowledge</b>	<ul style="list-style-type: none"> <li>Build simple structures and explore how to make them balanced, stronger and sturdier.</li> <li>Explore the characteristics of materials and components.</li> <li>Create products using mechanisms such as levers, sliders, and wheels.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that materials have functional and aesthetic qualities.</li> <li>Apply their knowledge of how to create balanced and sturdy structures to make more complex structures.</li> <li>Understand how electric systems have an input and output process.</li> <li>Make and represent simple electrical circuits and components to create functional products.</li> <li>Explain how mechanical systems make movement and use this in their product.</li> </ul>	<ul style="list-style-type: none"> <li>Understand that materials have functional and aesthetic qualities and make selections based on their prior knowledge.</li> <li>Apply their knowledge of how to create balanced and sturdy structures to make more detailed and complex structures.</li> <li>Understand how electric systems have an input, process and output.</li> <li>Explain in detail how mechanical systems make movement and use this in their product.</li> <li>Apply their computing knowledge to program, monitor and control a product.</li> </ul>
<b>Cooking and Nutrition</b>	<ul style="list-style-type: none"> <li>Explain where in the world different foods come from and how some ingredients are found.</li> <li>Understand that food must be farmed, grown elsewhere, or caught.</li> <li>Name and sort foods into the five groups.</li> <li>Understand the importance of eating 5 fruits and vegetables every day and start to explain why. <ul style="list-style-type: none"> <li>Design and prepare healthy dishes which include fruit and vegetables.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Begin to understand where and how food is grown.</li> <li>Prepare and cook a variety of dishes safely and hygienically.</li> <li>With support, use a heat source to cook ingredients, taking care to consider temperature and cooking time.</li> <li>Use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking.</li> <li>Explain that a healthy diet is made up of a variety of different food and drink.</li> <li>Be able to apply knowledge of healthy eating principles when planning and cooking dishes.</li> <li>Understand that to be active and healthy, nutritious food and drink are needed to give us energy.</li> <li>Prepare ingredients using appropriate utensils.</li> <li>Measure and weigh to the nearest (g) or (ml). <ul style="list-style-type: none"> <li>With support, follow a simple recipe.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world.</li> <li>Understand about seasonality, how this may affect the food availability and plan recipes according to seasonality.</li> <li>Demonstrate how to prepare and cook a variety of dishes safely and hygienically.</li> <li>Understand how to use a range of cooking techniques, such as griddling, grilling, frying and boiling.</li> <li>Explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes.</li> <li>Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture or aroma.</li> <li>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. <ul style="list-style-type: none"> <li>Independently follow a recipe.</li> </ul> </li> </ul>

<b>Designer Study</b>	<ul style="list-style-type: none"> <li>• Study the techniques and processes different designers and makers use.</li> <li>• Describe and compare the work of notable artists and designers.</li> <li>• Be inspired by the work of others to create their own work.</li> <li>• Learn from the work of a diverse range of designers and makers.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to study the techniques and processes different designers use.</li> <li>• Describe and compare the work of notable artists and designers, giving opinions.</li> <li>• Be inspired and replicate the work of others.</li> <li>• Reflect on their work and consider how to develop their skills.</li> <li>• Refer to techniques and the effect they have created.</li> <li>• Learn from the work of a diverse range of designers and makers.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a wider knowledge of the work of famous designers.</li> <li>• Give detailed observations about the work of famous designers in history.</li> <li>• Name the work of famous people and recall facts about famous artists and designers.</li> <li>• Continue to study the techniques and processes different artists use.</li> <li>• Describe and compare the work of notable artists and designers, giving opinions.</li> <li>• Be inspired and replicate the work of others with greater skill.</li> <li>• Carefully reflect on their work and consider how to hone their skills.</li> <li>• Refer to techniques and the effect they have created.</li> <li>• Learn from the work of a diverse range of designers and makers.</li> </ul>
-----------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Design and Technology Vocabulary Progression

This document sets out EYFS, KS1 and KS2 Design and Technology vocabulary under the EYFS Development Matters and National Curriculum. The tables can be used to check pupils' understanding of new vocabulary introduced from EYFS-Y6.

The lists are intended as a guide as to what pupils should know and are not exhaustive. Key terms may be introduced earlier as a challenge for our learners, although it is also important to ensure that learning is new in order to develop and extend learners throughout each phase.

Phase	Progression of Vocabulary				
<b>KS1</b>	<b>Food and Nutrition:</b>  fruit and vegetable names, names of equipment and utensils, sensory vocabulary e.g., soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients.	<b>Textiles:</b>  colour, fabric, pattern, shape, texture, glue, stick, scissors, sew, needle, felt, hessian, scraps, wool, yarn, thread, net, weave, layers, combine, opinion.	<b>Structures:</b>  cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder.	<b>Mechanisms:</b>  slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used.	<b>Electrical Systems:</b>  N/A

LKS2	Food and Nutrition:  name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet.	Textiles:  tie-dye, natural, synthetic, dip, soak, resist, threading, stitching, embroidery, cross stitch, running stitch, shrunken, tease, matting, daub, stamp, emblem, motif, ornamentation, geometric, stylised, abstract.	Structures:  shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision.	Mechanisms:  mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, rotary, oscillating, reciprocating.	Electrical Systems:  series circuit, fault, connection, toggle switch, push-to-make switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device.
UKS2	Food and Nutrition:  ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble.	Textiles:  cloth, fray, tweed, embellished, manipulated, embroidered, warp, weft, replicate, soft sculpture, manipulation, smocking, ruching, Batik, embellish, accentuate, enhance, detract, practicality, aesthetic.	Structures:  frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent.	Mechanisms:  pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output.	Electrical Systems:  reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, series circuit, parallel circuit.