

DESIGN TECHNOLOGY

SUBJECT OVERVIEW AND PURPOSE

WHY IS DESIGN TECHNOLOGY IMPORTANT?

Our Design and Technology approach inspires children to adapt to a rapidly changing world. It encourages children to become curious about how things work and how they can be adapted to an ever changing future.

Through Design Technology, pupils will develop independence, resilience and will become creative problem solvers; to think as individuals and as part of a team. Design Technology enables children to critically evaluate products and have an awareness of how designs and innovations help shape our world.

Children develop their self-belief and resilience as they design, make and evaluate purposeful products.

They acquire a broad range of subject knowledge and skills that can be applied across the curriculum and are transferable in everyday life.

HOW IS IT TAUGHT?

Our Design Technology curriculum builds upon the National Curriculum's **Design, Make and Evaluate** process; incorporating Cooking and Nutrition skills and Technical Knowledge.

We believe that the **Design, Make and Evaluate** process is integral to the planning and delivery of Design and Technology and children will develop these skills in a range of real world contexts.

The knowledge is built systematically from Early Years through to Key Stage 2. By the end of Key Stage 2, children will have had the



opportunity to **Design, Make and Evaluate** a variety of products with increasing confidence and independence.

DESIGN TECHNOLOGY AND BEYOND

Through Design Technology, children will develop skills such as;

- Critical and creative thinking
- Problem Solving
- Collaborative working
- Design
- Construction
- Evaluating products
- Preparing and cooking healthy food

These skills will prepare children for a wide range of careers:

- Architect
- Engineer
- Plumber/Electrician
- Chef
- Nutritionist
- Costume Designer
- Animator
- Graphic Designer

Ultimately, our goal is to inspire pupils to develop a passion for Design Technology and have the necessary skills to succeed in an ever changing world.

“Technology makes what was once impossible possible. Design makes it real.”

Michael Gagliano

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>EXPRESSIVE ARTS AND DESIGN, COMMUNICATION AND LANGUAGE, PHYSICAL DEVELOPMENT AND PERSONAL SOCIAL AND EMOTIONAL DEVELOPMENT</p> <p>EXPRESSIVE ARTS AND DESIGN Creating with materials. ■ Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. ■ Share their creations, explaining the process they have used.</p> <p>COMMUNICATION AND LANGUAGE: Listening, Attention and Understanding ■ Listen attentively and respond to what they hear with relevant questions. ■ Make comments about what they have heard and ask questions to clarify their understanding.</p> <p>COMMUNICATION AND LANGUAGE: Speaking ■ Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.</p> <p>PERSONAL SOCIAL, AND EMOTIONAL DEVELOPMENT. Managing Self ■ Manage their own basic hygiene and personal needs and understand the importance of healthy food choices.</p> <p>PHYSICAL DEVELOPMENT: Fine Motor ■ Use a range of small tools, including scissors, paint brushes and cutlery.</p>	KEY STAGE 1		KEY STAGE 2			
	DESIGN					
	<ul style="list-style-type: none"> ■ Design a purposeful, functional and appealing product. ■ Talk about their ideas. ■ Use pictures to communicate their design. 	<ul style="list-style-type: none"> ■ Design a purposeful, functional and appealing product. ■ Communicate their ideas through talking and drawing. ■ Use knowledge of existing products to help come up with their own products. ■ Design a purposeful product based on design criteria. 	<ul style="list-style-type: none"> ■ Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. ■ Develop ideas through the analysis of existing products (e.g. annotated sketches and prototypes) to model and communicate ideas. 	<ul style="list-style-type: none"> ■ Design innovative, functional and appealing products that are fit for the needs of the user and purpose of the product. ■ Generate, develop, model and communicate realistic ideas through discussion and, as appropriate such as annotated sketches, cross-sectional and exploded diagrams. ■ To use online resources and research to inform and design products. 	<ul style="list-style-type: none"> ■ Design innovative, functional and appealing products that are fit for the needs of the user and purpose of the product. ■ Inform design criteria and design ideas through processes such as: researching existing products, surveys, interviews, questionnaires. ■ Generate and communicate ideas through different ways, such as: annotated drawings, exploded drawings, drawings from different views and computer aided design. 	<ul style="list-style-type: none"> ■ Design a product to meet a specific design criteria. ■ Develop a design specification to guide the development of their ideas and products, taking account of constraints such as time, resources and cost. ■ Generate and communicate ideas through different ways, such as: annotated drawings, exploded drawings, drawings from different views and computer aided design. ■ Explain their design decisions and reflecting on their choices.
MAKE						
<ul style="list-style-type: none"> ■ Select from and use materials, according to their characteristics. ■ Select from and use tools to help them make their product. 	<ul style="list-style-type: none"> ■ Select from and use materials, according to their characteristics. ■ Select from and use tools safely to help them make their product. ■ Select from and use equipment to perform practical tasks, such as: cutting, shaping, joining and finishing. 	<ul style="list-style-type: none"> ■ Select from and discuss a range of tools and utensils. ■ Select from and discuss a range of materials and components. ■ Order the main stages of making. 	<ul style="list-style-type: none"> ■ Select from and discuss a wider range of tools and utensils. Explain the decisions they make, based on the properties. ■ Select from and discuss a wider range of materials and components. Explain the decisions they make, based on the properties. ■ Plan and order the main stages of making. 	<ul style="list-style-type: none"> ■ Select from and discuss a wider range of tools and utensils. Explain the decisions they make, based on the properties, such as: functionality and appropriateness. ■ Select from and discuss a wider range of materials and components. Explain the decisions they make, based on the properties, such as: functionality and appropriateness. ■ Formulate a step by step plan for a specific task. 	<ul style="list-style-type: none"> ■ Formulate a clear plan and order the main stages of making (eg using step by step guides). ■ Select from and discuss a wider range of tools and utensils. Explain the decisions they make, based on the properties, such as: aesthetics, functionality and appropriateness. ■ Select from and discuss a wider range of materials and components. Explain the decisions they make, based on the properties, such as: aesthetics, functionality and appropriateness. 	
EVALUATE						
<ul style="list-style-type: none"> ■ Suggest what they like about their product and suggest an improvement. 	<ul style="list-style-type: none"> ■ Evaluate their product against their design criteria. 	<ul style="list-style-type: none"> ■ Evaluate their product against their design criteria and an existing product. ■ Where appropriate, consider how significant events and individuals in DT have helped to shape the world. <i>(DT National Curriculum)</i> 	<ul style="list-style-type: none"> ■ Evaluate a range of existing products such as: other children's work or products on the market. ■ Evaluate their ideas and products against their own design criteria and identify strengths and ideas for improvement. ■ Where appropriate, consider how significant events and individuals in DT have helped to shape the world. <i>(DT National Curriculum)</i> 	<ul style="list-style-type: none"> ■ Evaluate their product against their design criteria and original design specification. ■ Use peer evaluations to analyse their end product and consider its strengths and weaknesses. ■ Where appropriate, consider how significant events and individuals in DT have helped to shape the world. <i>(DT National Curriculum)</i> 	<ul style="list-style-type: none"> ■ Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. ■ Where appropriate, consider how significant events and individuals in DT have helped to shape the world. <i>(DT National Curriculum)</i> 	

DESIGN TECHNOLOGY OUTCOMES

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
<p>PLEASE NOTE: Design Technology outcomes for EYFS are detailed on the previous page.</p>	KEY STAGE 1		KEY STAGE 2			
	TECHNICAL KNOWLEDGE					
	<p>BY THE END OF KS1, CHILDREN WILL:</p> <ul style="list-style-type: none"> ■ Build structures, exploring how they can be made stronger, stiffer and more stable; ■ Explore and use mechanisms in their product. 		<p>BY THE END OF KS2, CHILDREN WILL:</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 e.g. gears, pulleys, cams, levers, linkages; ■ Understand and use electrical systems in their products e.g. series circuits incorporating switches, bulbs, buzzes and motors; ■ Apply their understanding of computing to programme, monitor and control their products. 			
	COOKING AND NUTRITION					
<p>BY THE END OF KS1, CHILDREN WILL:</p> <ul style="list-style-type: none"> ■ Use the basic principles of a healthy and varied diet to prepare dishes; ■ Understand where food comes from. 		<p>BY THE END OF KS2, CHILDREN WILL:</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. 				