

Progression of skills and knowledge



SUBJECT: Design Technology

Subject intent:

At St Mary's we recognise the importance of Design and Technology in everyday life and the importance it will have in our children's future. We recognise the importance for pupils of all abilities as a subject which helps prepare them for the challenges and demands of adult life as well as being an enjoyable and stimulating subject in its own right.

We believe Design and Technology is an essential component of the curriculum because it aims to develop a knowledge of:

- Materials (natural and man-made)
- Forms and sources of energy
- Sensing and control systems
- Design and Evaluation
- Healthy eating

It is also an opportunity to help children develop a vast range of skills such as:

- Working collaboratively
- Resilience
- Reflective thinking
- Problem solving
- Using a range of tools safely

Our Design and Technology curriculum is linked, wherever possible, to the Topics the children are studying. This gives a purpose and audience to the project. Each topic is planned and delivered with clearly defined learning objectives.

		EYFS	By the end of Year 2	By the end of Year 4	By the end of Year 6
PROGRESSION OF SKILLS AND KNOWLEDGE	DESIGN	<ul style="list-style-type: none"> • Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. • Use large-muscle movements to wave flags and streamers, paint and make marks. • Choose the right resources to carry out their own plan. 	<p>To design purposeful, functional and appealing products for themselves (Year 1) and others (Year 2) based on design criteria.</p> <p>To generate, develop and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information</p>	<p>To use research to design products that are fit for a purpose, aimed at particular individuals or groups.</p> <p>To generate, develop, and communicate their ideas through discussion, annotated sketches and information and communication technology.</p> <p>Create a design criteria</p>	<p>To 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> <p>To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>Create a design criteria</p>

		<ul style="list-style-type: none"> • Use one-handed tools and equipment, for example, making snips in paper with scissors. • Explore how things work. • Make imaginative and complex ‘small worlds’ with blocks and construction kits, such as a city with different buildings and a park. • Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Create closed shapes with continuous lines, and begin to use these shapes to represent objects. 	and communication technology.		
	MAKE		<p>To select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining, finishing).</p> <p>To select from and use a wide range of materials and components, including construction materials, textiles (Year 2) and ingredients (Year 1), according to their characteristics.</p>	<p>To select from and use a wider range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing).</p> <p>To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	<p>To select from and use a wider range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing) accurately.</p> <p>To 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>To explore (Year 1) and evaluate (Year 2) a range of existing products.</p> <p>To evaluate their ideas and products (Year 1) against design criteria (Year 2).</p>	<p>To investigate a range of existing products.</p> <p>To evaluate their ideas and products against the design criteria and consider the views of others to improve their work.</p>	<p>To investigate and analyse a range of existing products.</p> <p>To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.</p> <p>To understand how key events and individuals in design and technology have helped shape the world (Year 6).</p>
		EYFS	By the end of Year 2	By the end of Year 4	By the end of Year 6

	TECHNICAL KNOWLEDGE	<ul style="list-style-type: none"> • Progress towards a more fluent style of moving, with developing control and grace. • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. • Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills. 	<p>To build structures, exploring how they can be made stronger, stiffer and more stable (Year 1).</p> <p>To explore and use mechanisms (levers, sliders, wheels and axles) in their products (Year 2).</p>	<p>To develop their understanding of how to strengthen, stiffen and reinforce structures.</p> <p>To explore and use mechanical systems in their products (gears, pulleys, cams, levers and linkages) (Year 3).</p> <p>To explore and use electrical systems in their products (series circuits incorporating switches, bulbs, and buzzers) (Year 4).</p>	<p>To apply their understanding of how to strengthen, stiffen and reinforce more complex structures (Year 5).</p> <p>To understand and use mechanical systems in their products (gears, pulleys, cams, levers and linkages) (Year 5).</p> <p>To understand and use electrical systems in their products (series circuits incorporating switches, bulbs, buzzers and motors) (Year 6).</p> <p>To apply their understanding of computing to programme, monitor and control their products (Year 6).</p>
	COOKING AND NUTRITION	<ul style="list-style-type: none"> • Use a range of small tools, including scissors, paintbrushes and cutlery. • 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>Use the basic principles of a healthy and varied diet to prepare dishes.</p> <p>Understand where food comes from.</p>	<p>Understand and apply the principles of a healthy and varied diet.</p> <p>Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p> <p>Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p>	<p>Understand and apply the principles of a healthy and varied diet.</p> <p>Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.</p> <p>Become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]</p> <p>Understand the source, seasonality and characteristics of a broad range of ingredients.</p>

