



**THE ST. MARY'S
PARTNERSHIP**

Design & Technology Curriculum



The Quality of Education Subject Pathway



DESIGN & TECHNOLOGY CURRICULUM

Intent

Our Design and Technology curriculum is crafted to ignite curiosity, nurture creativity and develop problem-solving skills in a meaningful and engaging way. Our intent is to ensure that children understand the relevance of design and technology in the real world by embedding it in purposeful contexts. We aim for pupils to learn how to design and make functional products through imaginative and practical activities, promoting innovation and critical thinking.

Our curriculum helps children understand how the designed and made world functions, while fostering collaboration, resilience and independence. By the end of their primary journey, we want all children to leave with a strong foundation of skills in design, making, evaluating, and technical knowledge that they can build upon in later life.

Early Years Foundation Stage - D&T starts in our youngest years!



In the Early Years, foundational skills for Design and Technology are introduced through exploratory and collaborative play. Children are encouraged to share ideas, use a variety of everyday and artistic materials, and develop fine motor skills through the use of tools. They begin to understand the purpose of objects and materials, and to reflect on what they make.

Teaching concentrates on ensuring that schematic links are made between our books, PSHE, wellbeing and wider curriculum aims, in order to develop well-rounded young people who know how to look after themselves, understand how to effectively choose and use tools and can discern between different types of materials.

Incorporating our setting aims to ensure the strongest communication and language, Design and Technology lends itself well to supporting pupils to evaluate through early appraisal. Practitioners support this language development, but children can discuss what they like/dislike, explain how they have made or designed items and can talk about being healthy.



These early experiences are essential for building confidence, creativity, and early understanding of making and designing – paving the way for the more formal and structured learning in Key Stages 1 and 2.

Furthermore, these experiences support wider subject development and critical thinking.

Implementation

“Technology without design is not quite the right technology. Design is how it works”.

Steve Jobs

The build of our D&T curriculum

Design and Technology is taught through a well-sequenced curriculum that builds progressively from the Early Years through to Year 6, in line with the National Curriculum. In Key Stage 1, children begin to learn how to design simple products for a purpose, use basic tools and materials, and evaluate their outcomes. They develop communication through drawing and modelling, while exploring basic mechanisms like levers and wheels. As they move into Key Stage 2, pupils deepen their understanding by applying research to inform their designs, creating more complex structures and mechanisms (e.g., gears, pulleys, and electrical systems), and considering user needs, functionality, and aesthetics. They are taught to select from a wider range of tools and materials, use technical vocabulary, and reflect critically on their own and others' work.

Lessons are enriched with cross-curricular links, hands-on experiences, and structured opportunities to develop practical skills and technological understanding. Cooking and nutrition are integrated throughout, ensuring children understand healthy eating and can prepare food safely and hygienically.



The five core areas of **Design, Make, Evaluate, Technical Knowledge**, and **Cooking & Nutrition** form the essential pillars of the Design and Technology curriculum and are carefully mapped to the National Curriculum expectations across Key Stage 1 and Key Stage 2. Together, they enable pupils to build a comprehensive range of skills, knowledge and understanding, progressively developed over time.

Design

In both Key Stages, children are taught to design purposeful and functional products based on given or researched criteria. In KS1, this begins with drawing, modelling, and verbal explanation. As they progress to KS2, children use annotated sketches, prototypes, pattern pieces, and even computer-aided design to communicate increasingly complex ideas. This area supports creative thinking and problem-solving, ensuring pupils consider user needs, purpose and aesthetics from the outset.

Make

Practical making lies at the heart of the curriculum. In KS1, children select from a range of tools and materials to complete tasks such as cutting, shaping, joining and finishing. As they advance in KS2, they become more accurate and confident with tools and materials, understanding which are appropriate for specific tasks. This area builds fine motor skills, practical independence, and the ability to follow step-by-step processes effectively.

Evaluate

Evaluation encourages reflective thinking and improvement. In KS1, pupils explore existing products and evaluate their own work against simple design criteria. By KS2, they develop the ability to analyse products in depth, critique their own and others' work, and use feedback to improve future iterations. This strengthens resilience, critical thinking, and the capacity to learn from mistakes—an essential skill across all areas of learning.

Technical Knowledge

This strand introduces and deepens understanding of how products work. In KS1, pupils learn about simple mechanisms (e.g., levers, wheels, axles) and basic construction techniques to make structures stable. By KS2, they expand this knowledge to include mechanical systems such as gears, pulleys and cams, as well as electrical components like bulbs, switches and motors. This supports scientific understanding and lays the groundwork for future STEM learning.

Cooking and Nutrition

From understanding where food comes from in KS1 to applying cooking techniques and knowledge of seasonality in KS2, this area ensures pupils develop lifelong skills for healthy living. Younger children learn about a varied diet and simple food preparation, while older pupils plan, prepare and cook savoury dishes safely and hygienically, deepening their understanding of nutrition and food sustainability.

The subject pathway

The Design and Technology pathway builds progressively from Early Years to Year 6, developing skills cumulatively and age-appropriately. In the Early Years, children explore materials, share ideas, and build fine motor skills through simple making and evaluating. In Key Stage 1, they apply these foundations to structured tasks, using tools, mechanisms, and ingredients while beginning to evaluate their work and understand healthy eating. By Key Stage 2, pupils engage in more complex designing, making, and evaluating, incorporating technical knowledge such as electrical systems, structures, and computing.

Cooking progresses to include seasonality, nutrition, and food preparation techniques. Each stage builds on prior knowledge, ensuring continuity and challenge, helping pupils become confident, creative problem-solvers with a strong understanding of how design impacts the world.

The Design and Technology Pathway



Curriculum Progression in D&T

Key Stage 1

Design	
Design purposeful, functional and appealing products for different users	<ul style="list-style-type: none"> Explore a range of products in context, for example, home, school, gardens, playgrounds, local community. Discuss the products they want to design and make. Talk about who their product is for, for example, themselves or a friend. Describe what their products are for. Describe how their product will work. Describe how their product is suitable for the user. Use simple design criteria to help develop their ideas.
Generate, develop and discuss their ideas	<ul style="list-style-type: none"> Use their own knowledge of products and experiences to generate ideas. Develop designs through drawings and discussions. Use materials, construction kits, templates and sketches to model their ideas. Use ICT to develop and communicate their ideas.
Make	
Preparing to make	<ul style="list-style-type: none"> Select tools to use from a range of tools and equipment. Select suitable materials to use.
Practical skills and techniques	<ul style="list-style-type: none"> Use tools and equipment safely. Understand basic elements of food hygiene. Use a range of materials and components including: <ul style="list-style-type: none"> construction materials and kits mechanical components textiles food ingredients. Measure, mark and cut materials. Assemble, join and mix different materials. Use finishing techniques to create a finished product.

Evaluate	
Explore and evaluate a range of existing products	<p>Explore:</p> <ul style="list-style-type: none"> • who products are for • what products are for • how products work • how and where they might be used • what materials products are made from • what they like and dislike about products.
Evaluate their own ideas and products	<ul style="list-style-type: none"> • Talk about what they are making. • Make simple judgements about their designs and products against a simple set of criteria.
Technical knowledge	
Build structures	<ul style="list-style-type: none"> • Explore characteristics of simple materials. • Understand how to make simple structures stronger.
Explore and use mechanisms	<ul style="list-style-type: none"> • Understand simple mechanisms such as levers, sliders, wheels and axles.
Cooking and Nutrition	
Healthy and varied diet	<ul style="list-style-type: none"> • Name and sort foods into five groups. • Understand the importance of five portions of fruit and veg every day.
Preparing and cooking food	<ul style="list-style-type: none"> • Understand simple hygiene practices. • Prepare simple dishes safely. • Use prep techniques such as cutting, peeling and grating.
Understanding food journeys	<ul style="list-style-type: none"> • Understand that food comes from plants or animals. • Understand that food needs to be farmed, grown or caught.

Key Stage 2

Evaluate	
Explore and evaluate a range of existing products	<p>Investigate and analyse:</p> <ul style="list-style-type: none"> • who designed and made products, including inventors, designers, engineers and chefs who developed ground-breaking products • where and when products were made • how well a product has been designed and made • why certain materials have been chosen • what methods have been used in the construction • how well a product works and achieves its purpose • how well a product meets the user's needs and wants • how sustainable the product is, including reusing or recycling • the additional impact products may have beyond their intended purpose.
Evaluate their own ideas and products	<ul style="list-style-type: none"> • Use their design criteria to evaluate their products. • Identify strengths in both the design and manufacture of their products. • Suggest improvements in their design and product thinking about the intended user and purpose.
Technical knowledge	
Build structures	<ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce more complex structures.
Explore and use mechanisms	<ul style="list-style-type: none"> • Understand how more complex mechanisms, such as levers, linkages, gears and pulleys, can create movement and use these in their designs. • Use electrical circuits to create functional products, for example, buzzers, bulbs and motors. • Understand how computers and programming can be used to control and monitor their products.
Cooking and Nutrition	
Healthy and varied diet	<ul style="list-style-type: none"> • Understand how to lead a healthy and active lifestyle. • Understand that a healthy diet is made up of a variety and balance of different food and drink. • Understand the different substances in food that are needed to be healthy, for example, nutrients, water and fibre.
Preparing and cooking food	<ul style="list-style-type: none"> • Work hygienically with a range of equipment. • Prepare a range of mostly savoury dishes using a heat source where appropriate. • Adapt recipes to change the appearance, taste, smell and texture of food. • Use more skilled prep techniques such as chopping, slicing, kneading and baking.
Understanding food journeys	<ul style="list-style-type: none"> • Understand how food is produced: <ul style="list-style-type: none"> • grown, for example, tomatoes, wheat and aubergine • reared, for example, pigs, chickens and cattle • caught, for example, fish. • Understand the global nature of food journeys. • Understand how food is seasonal and how this affects the availability of produce. • Understand how some food is processed into ingredients to be eaten or used in cooking.

Design	
Design purposeful, functional and appealing products for different users	<ul style="list-style-type: none"> • Explore a wider range of products in context, for example, leisure, culture, enterprise, industry and the wider environment. • Research the products they want to design, the needs and wants of people, for example, surveys, questionnaires. • Discuss the purpose of their products. • Explain how different parts of their products work. • Discuss the design features of their products that will appeal to the intended users.
Generate, develop and discuss their ideas	<ul style="list-style-type: none"> • Generate realistic designs to focus on the needs of the user and their research findings. • Share their ideas clearly through discussions using: <ul style="list-style-type: none"> • prototypes and pattern pieces • annotated sketches and drawings • computer-aided design. • Make design decisions based on constraints such as time, resources, etc.
Make	
Preparing to make	<ul style="list-style-type: none"> • Select tools and equipment suitable for the task, explaining their choices. • Select suitable materials to use according to functional properties and aesthetic qualities. • Create step-by-step 'how to make' instructions.
Practical skills and techniques	<ul style="list-style-type: none"> • Use tools and equipment independently and safely. • Follow food hygiene guidance independently. • Use a wider range of materials and components more independently including: <ul style="list-style-type: none"> • electrical components • more complex textiles. • Accurately measure, mark, cut and shape materials and components. • Accurately assemble, join and combine different materials and components. • Accurately apply a range of finishing techniques to create a finished product. • Show resourcefulness when tackling practical problems.

Celebration of Learning

To conclude each unit, children participate in exciting celebration activities that allow them to showcase their learning and achievements. These include gallery walks where pupils display their products with accompanying reflection sheets, allowing peers and visitors to explore the journey behind the work.

Fashion shows give children a platform to present wearable projects such as aprons, sharing their inspiration and challenges faced during the design process.

A more enterprise-focused option, such as pitching their aprons to a 'Tesco Marketing Executive', encourages pupils to articulate the functionality, aesthetics and marketability of their product. These exit points provide meaningful opportunities for pupils to apply their skills, communicate their ideas effectively, and take pride in their accomplishments.

Extra-curricular development - going the extra mile!

Extra-curricular opportunities in Design and Technology are enriched through a range of creative, hands-on experiences that go beyond the classroom. One significant avenue is through our **Artist in Residence**, who works with pupils to create large-scale reliefs, sculptures, and installations displayed around the school. This ongoing collaboration allows children to explore techniques in sculpture and mixed media, contributing to meaningful and permanent works that enhance the school environment.

Additionally, we partner with **Arty-Party**, a creative organisation commissioned twice yearly to lead whole-school sculpture projects. Every child in every school participates in designing and constructing themed artworks—such as dinosaur bones, sea creatures, or wild animals—encouraging collaboration, large-scale making, and imaginative design. These experiences deepen pupils' creative understanding and foster pride in shared artistic achievement.

