

# Design & Technology

**Being the best we can be; committed to making in a difference**

**EXPERIMENT. REFINE. LEARN. REPEAT.**

## **INTENT - Purpose of Study**

Being able to practically apply knowledge and understanding is at the heart of our Design & Technology curriculum. Children will be taught how to plan, build and evaluate projects that use knowledge and understanding from across the curriculum, including but not limited to, computing, maths, science and english. Children will be empowered to use tools safely; choose and manipulate materials with discernment; and aspire to complete their projects to a high standard.

Throughout the process, from planning through to evaluation, children will be challenged to problem solve and innovate, finding solutions by trial and error, review and application of knowledge.

## **Implementation**

Our planning is designed to provide a spiral development of understanding of skills and concepts as children progress through the school. Each session is designed to grab attention, support and empower children to succeed and provide opportunity for reflection and evaluation.

The teaching of Design & Technology is practiced through 5 overarching themes: structures, mechanisms, electrical systems, cooking and nutrition and textiles. Where possible children will be encouraged to think about recycling and upcycling materials that would otherwise be considered waste. Children will experience using a range of tools appropriate to their age and stage of development.

In KS1, planning, creating and evaluating work is, for the most part, carried out practically. Photos and videos of children's work is collected and children are encouraged to take their finished projects home.

In KS2 planning and evaluation are recorded either on paper in their Design & Technology books or digitally via Google Classroom.

Knowledge is built on year on year, revisiting and building on previous learning of vocabulary and concepts.

## **Impact**

Children will create a final project for most units of work that can be assessed to gain insight into the impact of their learning. Knowledge Organisers are used to set expectations and support children to clarify their own thinking.

Streams today, oceans tomorrow...

respect

confidence

compassion

truth

curiosity

courage

endurance



<p align="center"><b><u>Reception</u></b> <i>(end point overview)</i></p>	<p align="center"><b><u>Key Stage 1</u></b> <i>(end point overview)</i></p>	<p align="center"><b><u>Key Stage 2</u></b> <i>(end point overview)</i></p>
<ul style="list-style-type: none"> <li>● Progress towards a more fluent style of moving, with developing control and grace.</li> <li>● Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</li> <li>● Explore, use and refine a variety of artistic effects to express their ideas and feelings.</li> <li>● Return to and build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>● Create collaboratively, sharing ideas, resources and skills.</li> <li>● Use a range of small tools, including scissors, paintbrushes and cutlery.</li> <li>● Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>● Share their creations, explaining the process they have used.</li> </ul>	<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> <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> <li>● Explore and evaluate a range of existing products.</li> <li>● Evaluate their ideas and products against design criteria.</li> <li>● Build structures, exploring how they can be made stronger, stiffer and more stable.</li> <li>● Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> <li>● Cooking and Nutrition: Use basic principles of a healthy and varied diet to prepare dishes.</li> <li>● Cooking and Nutrition: Understand where food comes from.</li> </ul>	<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> <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> <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> <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> <li>● Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors].</li> <li>● Apply their understanding of computing to program, monitor and control their products.</li> <li>● <i>Cooking and Nutrition: Understand and apply principles of a healthy and varied diet.</i></li> </ul>

		<ul style="list-style-type: none"><li>• <i>Cooking and Nutrition: Prepare and cook variety of predominantly savoury dishes using a range of cooking techniques.</i></li><li>• <i>Cooking and Nutrition: Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</i></li></ul>
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