



## Design and Technology Curriculum

### Intent

Our design and technology curriculum has been created to ensure there is a systematic approach to the development of skills in four key areas; designing, making, evaluating and developing technical knowledge.

Using imagination and creativity, the children design and make products that solve real and relevant problems within a variety of contexts. Children work with a range of materials and use a selection of specialist equipment; drawing on disciplines such as science, engineering, computing and art. We believe a high-quality design and technology education makes an essential contribution to the culture, creativity, wealth and well-being of society, whilst allowing children to develop fundamental skills such as how to take risks and be resourceful.

### Implementation

Across KS1 and KS2, the curriculum has been designed as a two year rolling programme.

	Class 1 (EYFS, Y1 and Y2)	Class 2 (Y3, 4, 5, 6)
Year A	<p><b>Structures</b> - Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.</p> <p><b>Cooking and nutrition</b> - Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.</p>	<p><b>Structures</b> - Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures.</p> <p><b>Cooking and nutrition</b> - Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods. Understand what is meant by seasonal foods. Know where and how ingredients are sourced.</p> <p><b>Electrical systems</b> - Create functional electrical products that use series circuits, incorporating different components such as bulbs, LEDs, switches, buzzers and motors. Consider how the materials used in these products can: ● Protect the circuitry. ● Reflect light. ● Conduct electricity. ● Insulate.</p>

Year B	<p><b>Mechanisms</b> - Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.</p> <p><b>Textiles</b> - Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.</p>	<p><b>Mechanical systems</b> - Extend pupils understanding of individual mechanisms, to form part of a functional system, for example: followers, axles/shaft, cranks and toppers.</p> <p><b>Textiles</b> - Understand that fabric can be layered for effect, recognising the appearance and technique for different stitch and fastening types, including their: ● Strength. ● Appropriate use. ● Design.</p> <p><b>Digital world</b> - Learn how to develop an electronic product with processing capabilities. Apply Computing principles to program functions within a product including to control and monitor it. Understand how the history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today.</p>
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### Impact

At the start of each unit children will share what they already know and discuss what they want to find out. Our topic work is enquiry based and so independent research will be built into each block of work; through the evaluation of past and present design and technology, pupils will develop a critical understanding of its impact on daily life and the wider world. At the end of the unit, children will revisit their initial discussion, developing their knowledge through formal and informal reflection. Across the curriculum, we encourage every child to develop a rich vocabulary that focuses on a variety of 'key words' throughout each topic. Design and technology is assessed informally through the use of discussion and via a pupils' ability to reflect and build upon their own learning.