



*A deliberate balance of skills and knowledge so children can enjoy their learning, develop their learning and aim high.*



## **St Michael's C of E Primary School - Our Design and Technology Vision**



### **Intent:**

Through an exciting and rigorous design and technology curriculum, pupils will be inspired by engineers, designers, chefs and architects to use their creativity to produce a range of structures, mechanisms, textiles, electrical systems and food products. At St Michaels our Design and Technology curriculum aims to teach children to design, make and evaluate a product for a given purpose, and recognise that modifying as work progresses is a key skill. Children will always consider the user's needs and wants whilst designing, making and evaluating their products. Each year, the children will build on the skills and knowledge learnt in previous year groups. Using their prior knowledge will help the children to solve real life and relevant problems whilst also drawing on skills learnt in other lessons such as mathematics, science, engineering, computing and art to support them. As a school we encourage children to work progressively both alone and in groups to take risks which will enable them to become resourceful, innovative and enterprising citizens. This will equip them with essential skills for the future.

### **Implementation:**

At St Michael's we teach the National curriculum by following the clear design and technology cycle of designing, making and evaluating a product whilst always considering the user. This ensures that each year children are building on the skills and knowledge that they have learnt in previous year groups. Children are also introduced to the appropriate technical knowledge each year. This builds on their prior knowledge. Each year group will take part in 3 design and technology projects a year, one food project and two projects based on construction, electronics, mechanisms and textiles. We have invested in the projects on a page scheme of work. Teachers can use this scheme to be creative and draw ideas from. They refer to the planning templates from this scheme which will guide them to deliver the highest quality lessons. We teach the projects over a two year cycle so every child will experience the 4 areas (structures, mechanisms, textiles, electrical systems and) at least twice during their time at school and they will take part in a food project each year. Children may also experience design and technology by going on educational visits to places such as museums and food establishments and having visitors come into school.

During our DT lessons many cross-curricular links are made. Pupils draw on their scientific knowledge whilst taking part in many projects including textiles and structures (considering the properties of materials) and electrical systems (building circuits). They draw on their mathematical knowledge throughout the design and make stages of their lessons as they will often be measuring and calculating quantities. English skills such as reading and writing are always being drawn upon. During the design phase pupils will be reading about previous products whilst conducting their research. They will write instructions, labels and detailed evaluations after creating their products.

### **Impact:**

As part of each project pupils are given the opportunity to create a final product. This enables them to showcase the skills that they have learnt. Using their skills children will become creative thinkers, problem solvers and will learn to take appropriate risks. Through the evaluation of past and present design and

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technology, children will develop a critical understanding of its impact on daily life and the wider world. In cooking children will understand and apply the principles of nutrition and learn some basic cookery skills.

We assess the impact of our design and technology curriculum in a number of ways:

- Assessing children's understanding of technical language before and after the unit is taught.
- Interviewing children about their learning (pupil voice).
- Taking images and videos of pupils learning.
- Book scrutiny.

**Some of our sources of evidence:**

KWL grid before each topic and at the end of each unit.

Production of clear designs.

Photographs

Evaluations of each project.

A dedicated DT book.

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**Long Term Plan:**

## Key Stage 1

<b>Y1 or A</b>	<b>Mechanisms</b> Sliders and levers	<b>Structures</b> Freestanding structures	<b>Food</b> Preparing fruit and vegetables (including cooking and nutrition requirements for KS1)
<b>Y2 or B</b>	<b>Mechanisms</b> Wheels and axles	<b>Food</b> Preparing fruit and vegetables (including cooking and nutrition requirements for KS1)	<b>Textiles</b> Templates and joining techniques

## Early Key Stage 2

<b>Y3 or A</b>	<b>Structures</b> Shell structures (including computer-aided design)	<b>Food</b> Healthy and varied diet (including cooking and nutrition requirements for KS2)	<b>Textiles</b> 2D shape to 3D product
<b>Y4 or B</b>	<b>Mechanical Systems</b> Levers and linkages	<b>Electrical Systems</b> Simple circuits and switches (including programming and control)	<b>Food</b> Healthy and varied diet (including cooking and nutrition requirements for KS2)

## Late Key Stage 2

<b>Y5 or A</b>	<b>Structures</b> Frame structures	<b>Food</b> Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)	<b>Electrical Systems</b> More complex switches and circuits (including programming, monitoring and control)
<b>Y6 or B</b>	<b>Textiles</b> Combining different fabric shapes (including computer-aided design)	<b>Mechanical Systems</b> Pulleys or gears	<b>Food</b> Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)