



St. Andrew's C of E Junior **Design and Technology Policy**

Our Vision

‘Through experiences rooted in Christian Values and through mutual respect, we guide children to develop compassion, responsibility and resilience in a caring environment’

“Design is not just what it looks like and feels like. Design is how it works.”

— Steve Jobs

Intent

Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At St Andrew's, we encourage children to use their creativity and imagination, to follow the design cycle to create products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. Wherever possible we link work to other curriculum subjects and our global goals, whilst ensuring that the priority in DT lessons are DT objectives.

Design Technology at St Andrew's is an invaluable opportunity for our children to develop and apply intangible skills beyond the National Curriculum, from collaboration and communication to independence, problem solving and adaptability. Experiencing the design cycle is no better way to learn and build resilience in children.

We are proud that at St Andrew's Design Technology lessons are an inclusive opportunity for *all* children to excel.

Implementation

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children design and create products that consider function and purpose and which are relevant to a range of sectors (for example, the home, school, leisure, culture, enterprise, industry and the wider environment).

The Design Cycle

When designing and making, the children are taught to:

Research

Inspired by Steve Job's quote that design is 'learning how things work', a large part of this element of the design cycle is researching how existing products work, how they were constructed and ultimately how we can innovate upon them in our setting to create something which suits the brief. The children are then guided to examine a variety of similar products already on the market – ideally the actual products but often photographs of examples or searching using IT - which can be investigated.

Wherever possible the *theory* behind how a product works should match other subjects, such as pulleys and levers in science or control in ICT so that they are applying their knowledge of how things work in the development of their product.

Design

The children will use their 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 as specified in their design brief.

The children are guided to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes, pattern pieces and computer-aided design.

Make

The children are guided to select from and use a wide range of tools and equipment to develop a variety of skills. For example, cutting, shaping, joining and finishing, as well as chopping and slicing accurately. Alongside this they must select from and use a wide range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

In the making process we want to encourage the children to take risks, try something new, innovate to solve problems and ultimately celebrate their successes even when something isn't perfect.

Evaluate.

After making, the children will evaluate their ideas and products against their own design criteria; how successful their product was and what they would have done differently. During this process they also consider the views of others to improve their work.

Develop, Use and Apply Technical Knowledge

Throughout the process children are introduced to and encouraged to use a variety of technical knowledge. This includes but is not limited to;

- An understanding of how to strengthen, stiffen and reinforce more complex structures.

- Understand and use mechanical systems in their products.
- Understand and use electrical systems in their products.
- Apply their understanding of computing to program, monitor and control their products
- Understand some of the ways that food can be processed and the effect of different cooking practices.

Curriculum Coverage

Key skills and key knowledge for D and T have been mapped across the school to ensure progression between year groups. The context for the children's work in Design and Technology is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study.

	Year 3	Year 4	Year 5	Year 6
Cooking and Nutrition	x	x	x	x
Electrical Systems		x		x
Textiles	x		x	
Structures and Frames	x		x	
Mechanisms		x		x

Impact

We ensure the children:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users and critique, evaluate and test their ideas and products and the work of others

- Understand and apply the principles of nutrition and learn how to cook.
- Children will design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child.
- Children learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Policy Date: June 2024

Review date: September 2025