

# Design and Technology Curriculum Statement

## Vision

At St. Andrew's CE VC Primary School, we want every child to be happy and enthusiastic learners of Design and Technology. We recognise that **Design and technology is rapidly changing the world that we live in by creative and imaginative new ideas and sustainable products.**

At St Andrew's, we encourage children to use their **creativity** and **imagination**, to **design** and make **products** that have a **purpose**, and that solve real and relevant problems **within a variety of contexts**. We aim to, wherever possible, link work to other disciplines such as Mathematics, Science, Engineering, Computing and Art. We want our children to **apply** declarative, procedural and experiential **knowledge** acquired in other subjects, and in particular Science. Central to this the children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become **innovators** and **risk-takers**.

## Aims

Our principal aim is that children leave St. Andrews's CE VC Primary School with a wide range of happy and rich memories in Design and Technology formed through interesting and exciting experiences. Ensuring that children see learning in Design and Technology as an ongoing process not a one-off event.

**Opportunities** will exist for children of all ages to **experience** learning **beyond the classroom**. This will allow them to enrich their knowledge by, for example, visiting science museums, taking part in STEM Competitions, and engagement with local Secondary Schools and Businesses.

In Design and Technology, children will develop **planning** and **communication skills**, including **presenting** ideas, **produce** meaningful and quality products and be **reflective** of their processes and outcomes. Children will develop a real understanding and appreciation of the world learning from the best that has been developed.

## Characteristics of a Designer

Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.

An excellent attitude to learning and independent working.

The ability to use time efficiently and work constructively and productively with others.

The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.

A thorough knowledge of which tools, equipment and materials to use to make their products.

The ability to apply mathematical knowledge.

The ability to manage risks exceptionally well to manufacture products safely and hygienically.

A passion for the subject and knowledge of, up-to-date technological innovations.

## Our Learning Journey



## A Knowledge rich curriculum

It is through the planning and provision of a broad and balanced design and technology curriculum that pupils are encouraged to **hypothesise, Design, adapt** and **evaluate** their own work, to help them appreciate design as being a dynamic and ever-changing process. Children will develop a deep understanding of the subject they are studying. They will increasingly use their prior knowledge to solve problems and develop their sophistication of design.

Through a variety of **creative** and **practical activities**, we will teach the **knowledge**, understanding and **skills** needed to engage in an interactive process of designing and making. The children design and create products that consider function and purpose.

**In Key Stage 1 the children will be taught:**

### Design

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups.

### Make

- Select from and use a range of tools and equipment to perform practical tasks
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

### Evaluate

- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria

### Technical knowledge

- Build structures, exploring how they can be made stronger, stiffer and more stable
- Explore and use mechanisms, in their products.

### Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity.

- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

## **In Key Stage 2 the children will be taught:**

### **Design**

- 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
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

### **Make**

- Select from and use a wider range of tools and equipment to perform practical tasks accurately
- 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

### **Evaluate**

- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- Understand how key events and individuals in design and technology have helped shape the world

### **Technical knowledge**

- Apply their 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

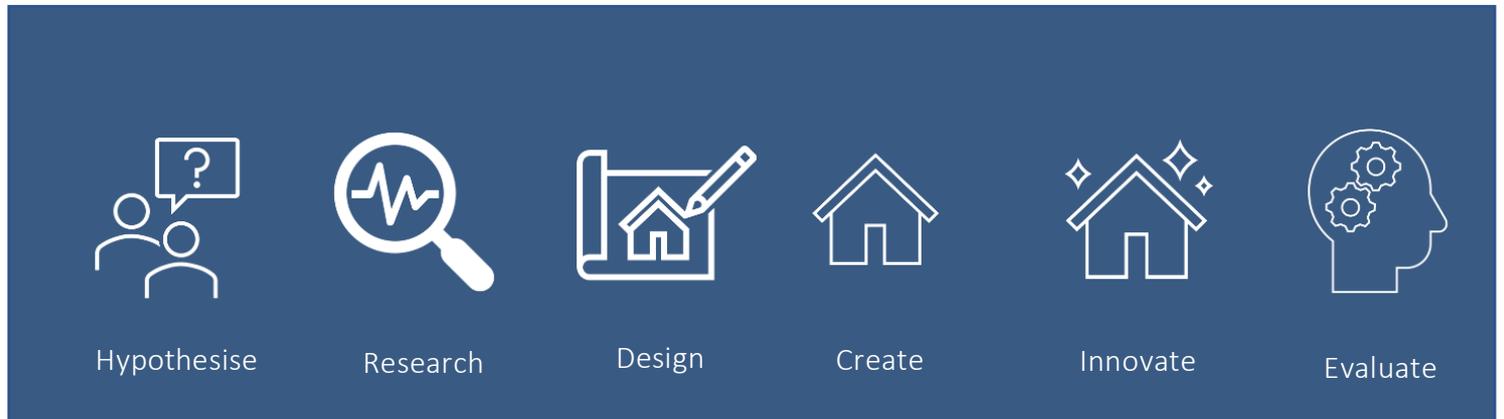
### **Cooking and Nutrition**

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

- Understand and apply the principles of a healthy and varied diet
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- Understand seasonality and to know where and how a variety of ingredients are grown, reared, caught and processed.

## Design and Technology in Action

Design and Technology is underpinned by the children putting their knowledge and understanding into action by understanding several key concepts:



## Knowledge to be remembered not merely encountered

At St. Andrew's, Design and Technology is carefully planned to ensure that the application of technical skills are regularly returned to, supporting children to make informed choices and rehearse techniques over time. To enable children to make links with embedded knowledge from connected subjects.

The knowledge will be carefully mapped and shared through a knowledge organiser in order to build a strong schema.