



## Read St. John's Design Technology Policy

**'Sowing the Seeds of tomorrow; growing in the light of the Lord'**

**At Read St. John's we aim to unlock the potential for everyone to flourish whilst being rooted and grounded in God's love. We aim high, so together as one family, we can fly.**

This policy outlines the intent, implementation and impact of the teaching and learning of all aspects of the design and technology (DT) curriculum. It has been written by the subject leader Carolyne Entwistle and reviewed by the headteacher and governors. The subject is led by the subject leader and the staff as a whole and each year, time is set aside to review standards and monitor curriculum provision and ensure training and resources are up to date.

### **Intent**

This policy states our intent for teaching children to enjoy and develop confidence, plan, design, evaluate, improve and create using a range of resources and materials. We intend children will develop the necessary skills to create a range of products and systems as they progress from Reception to year 6. These progressive skills will be taught developed, evaluated and reinforced through a range of opportunities in both DT lessons and drawn upon across the curriculum.

Children will consider the user, purpose, functionality, design decisions, innovation and authenticity as they plan, create and evaluate using some technical vocabulary to facilitate this.

They will draw and model ideas and consider health and safety when using tools and materials.

Children will learn to make informed judgements and aesthetic and practical decisions. They will learn about many technological skills and practices and have chance to practise, apply, develop and test these to meet the requirements of their design specification. They will consider the impact of design features on our lives and how some of these were used and developed at different times or in different cultures.

### **Implementation**

At Read St. John's we use the Lancashire themed booklets as the basis for our planning. This enables us to make cross curricular links when possible.

Different abilities are catered for with suitable learning opportunities to ensure challenge and support as required, whether this be through design remit, available resources or open ended task.

Teachers ensure that when children are designing and making products this includes exploring and developing ideas. Children are encouraged to evaluate work critically as it develops and to suggest amendments where appropriate. This is done through whole class teaching, individual and group activities. Children work on products of various scales using a wide range of resources including ICT.

The school uses a variety of teaching and learning styles in DT lessons. We believe in whole-class teaching methods and combine these with enquiry-based research activities. We encourage children to handle artefacts and to ask as well as answer DT questions. Children take part in roleplay and discussions, and they present reports to the rest of the class. They engage in a wide variety of problem-solving activities. Wherever possible, we involve the children in 'real' DT activities, e.g. designing an obstacle course, in foundation stage, for an older child to use. Designing a hat that is both smart and waterproof, in year 2, for a teacher to wear on playground duty.

A **skills progression document** and **topic map** for DT shows that coverage is balanced and builds on previous learning. Children's needs and interests are also taken into account when planning.

- DT journals will be used to record learning objectives, innovation, children's plans and adaptations as well as some testing and evaluating.
- End results are shared and celebrated in displays or assemblies that parents are invited to attend.
- DT is taught both as a discrete subject and across the curriculum.

### **EYFS Curriculum**

We encourage the development of skills, knowledge and understanding that help our youngest children make sense of their world. Work done in Reception underpins future learning and includes; asking questions and thinking critically, investigating, using construction toys, materials, tools and products every day. They learn how to handle tools safely and with increased control. These activities, both indoors and outdoors, spark the interest for this subject as it develops through school. The Early Learning Goals of Understanding the World and Expressive Arts and Design offer many opportunities to develop specific DT skills. However, opportunities in DT are apparent across the whole of the EYFS curriculum.

### **National Curriculum**

#### **KS1**

Through a variety of creative and practical activities, the children will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They will work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, the children will be taught to:

#### 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 and, where appropriate, information and communication technology.

#### Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].

- 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 [for example, levers, sliders, wheels and axles], in their products.

### **KS2**

Through a variety of creative and practical activities, children should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, the children will be taught to:

#### 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 [for example, cutting, shaping, joining and finishing], 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 [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

## Cooking and Nutrition

As part of their work with food, children should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in children 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 children to feed themselves and others affordably and well, now and in later life.

Children will be taught to:

### KS1

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

### KS2

- 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 know where and how a variety of ingredients are grown, reared, caught and processed.

## **Spiritual, moral, social and cultural development**

**Spiritual development:** Through helping children to recognise their creative thinking and innovation they are also developing self- confidence and belief in their abilities. When studying human achievement and the natural world, children are exposed to wonder and mystery. This develops self-expression and the confidence to ask How? Why? and Where?

**Moral development:** Through helping children to develop an awareness of design technology in the world, they also find out about how it effects people in different ways and any associated moral dilemmas. It also encourages children to value the environment and the resources it creates. In turn, helping them to make informed choices and to become responsible consumers.

**Social development:** Through helping children to appreciate the need to consider the views of others in their designs and creations, they will develop a greater depth of knowledge and understanding in this subject. Furthermore, teamwork, sharing and respect for others will develop. DT also promotes equality of opportunity and is celebrated in our displays, assemblies and the presentation of the STEM (science, technology, engineering and maths) Trophy.

**Cultural development:** Designs and products from different times and cultures are evaluated in terms of aesthetic appreciation, purpose and use. Thus developing an appreciation of how other cultures have contributed to products and processes in our own lives. In turn enhancing our tolerance and understanding of diversity and ways in which design can improve all our lives.

## **Assessment, Monitoring and Moderation**

At Read St. John's assessment is an integral part of the teaching process. The assessment of children's work, using the relevant assessment frameworks, is on-going to ensure that understanding is being achieved and that progress is being made. Feedback is given to the children as soon as possible and marking work will be guided by the school's Marking Policy.

Monitoring and moderation takes place regularly through:

- Monitoring of planning
- Learning Walk
- Observations
- Scrutiny of Books/Work
- Moderation of work

- Discussions with Children/Pupil Voice Questionnaires
- Staff Meetings and Staff Audits
- Meetings/observations with the nominated governor.

### **Health and Safety.**

Children are taught to handle tools and resources sensibly and with care, at every opportunity. Educational visits, that include looking at aspects of design and technology follow our educational visits policy. Staff are aware that an orderly learning environment is a safe environment. Online safety is integral to any research that the children may undertake and children are taught about this continuously.

### **Resources**

A range of resources are frequently assessed and updated. Staff request any specific resource requirements which are ordered by the subject leader.

### **Impact**

As the world develops at speed, design and technology is an area of learning that will encourage children to not only be involved but influential innovators in this process to make positive changes. Working individually and as part of a team they will develop their creative and problem solving skills. Evaluating ideas, plans and products will help them to identify needs and opportunities that they can respond to. Studying DT from both past and present day will develop practical skills and aesthetic appreciation. It will develop an awareness of social and environmental issues and knowledge of industrial practices and functions, in order to develop their own products and systems. Skills in DT will be developed as the children progress through school, enhancing their understanding of how products are developed to meet specific needs. This, in turn, will create informed consumers who can think critically and create to specification.

The impact is demonstrated through the children's learning outcomes by the end of KS2. They:

- 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
- 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.

This policy was written in September 2022 and will be reviewed in September 2023