

# **St Joseph the Worker Catholic Primary School**



## **Design & Technology Policy**

**2021**

## **'St Joseph The Worker Design & Technology Policy'**

*Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils 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.*

**(National Curriculum 2014)**

### **INTENT**

At St Joseph the Worker Catholic Primary School we aim to ensure that all children have entitlement to a broad and balanced, enriching curriculum. We believe Design and Technology brings learning to life. Design and Technology education helps develop children's skills through collaborative working and problem solving: knowledge in design, materials, structures, mechanisms, electrical control, existing products, quality and health and safety.

The skills they learn in Design and Technology also help with learning across the curriculum. It creates a platform to develop skills, especially in maths, literacy and science.

Children are encouraged to be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise.

Design and Technology also enables children to make decisions for themselves, especially when doing practical work. Children love to create products they can see, touch and even taste for themselves. They feel proud to have done so. Children will be given equal access to the experience of Design Technology regardless of gender, race or disability.

#### **The National Curriculum for Design Technology aims to ensure that all pupils:**

- 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.

## **National Curriculum Subject Content**

### **Key stage 1 pupils should be taught to:**

Through a variety of creative and practical activities, pupils 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 and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should 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
- 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.

#### **Technical knowledge**

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.

#### **Cooking and Nutrition**

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

## **Key stage 2 pupils should be taught to:**

Through a variety of creative and practical activities, pupils 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, pupils should 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
- 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.

### **Technical knowledge**

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages
- understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors

- apply their understanding of computing to programme, monitor and control their products.

### **Cooking and Nutrition**

- 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.

## **Implementation**

### **The Curriculum**

The Design and Technology curriculum contains two strands of subject content.

### **Designing and Making**

- Investigating and evaluating existing products
- Designing
- Making
- Evaluating
- Technical knowledge: focused tasks to develop knowledge and skills

### **Cooking and Nutrition**

- Healthy and a varied diet
- Use a range of preparation and cooking skills and techniques
- Understand where food (ingredients) comes from and seasonality

### **Curriculum Coverage**

Each class should undertake three Design and Technology units per year. Through each topic the children will follow a clear design process of research, design, make and evaluate.

Two units from the following:

- Textiles
- Structures
- Mechanisms (KS1)
- Electrical or mechanical systems (KS2)

One food project must be completed by each class during the course of the year.

Each year group has a garden plot and takes ownership and responsibility for cultivating the relevant crops.

Through topics studied children will develop independent and collaborative learning skills by solving problems independently or by working as part of a team to support and help one another towards a goal.

**Please see Design and Technology Curriculum Map for further details.**

### **Early Years**

In EYFS children learn primarily through play based experiences and child led learning. Elements of the DT curriculum are covered within each topic providing children with vast opportunities to develop their DT skills; through construction, textiles and food/drink tasks.

### **Expressive Arts and Design**

(Exploring and Using Media and Materials)

Children safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

### **Expressive Arts and Design**

(Being Imaginative)

Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.

They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.

### **Physical Development**

(Moving and Handling)

Children handle equipment and tools effectively, including pencils for writing.

### **Health and Safety**

Children will be taught explicitly a range of skills ensuring that children are aware of health and safety issues related to tasks undertaken e.g: using knives, hacksaws etc. General health and safety rules will apply.

## Impact

During their time at St Joseph the Worker Catholic Primary School, children will benefit from a rich broad and balanced programme of Design Technology. Children will have clear enjoyment and confidence in design and technology that they can apply to other areas of the curriculum. Children will ultimately know more, remember more and understand more about Design Technology, demonstrating this knowledge when using tools or skills in other areas of the curriculum and in opportunities out of school. The large majority of children will achieve age related expectations in Design Technology. As designers children will develop skills and attributes they can use beyond school and into adulthood.

Revised and adopted by the Governing Body ..... Date.....

Review Date: