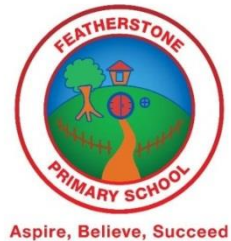# Featherstone Primary School
# Design and Technology Policy:

Agreed by Governors:  Standards, Curriculum and SEND
Approved date: Nov 2024

## Introduction

At Featherstone we believe that Design and Technology encourages children to learn to think creatively to solve problems both as individuals and as part of a wider team. They are taught to look for opportunities and existing products currently on the market and to respond to them by developing a range of ideas and making a range of products. The children are also given opportunities to reflect upon their work in order to evaluate its effectiveness and are encouraged to become innovators.

## Aims of Design & Technology

- Children to become researchers in order to analyse existing products
- Create design criteria's based on existing products
- To develop children' designing and making skills,
- To teach children the knowledge and understanding, within each child's ability, that will be required to complete the making of their product,
- To teach children the safe and effective use of a range of tools and materials.
- To develop children's understanding of the ways in which people have designed products in the past and present to meet their needs,
- To encourage the development of children's creativity and innovation through designing and making

## Design & Technology in relation to the National Curriculum

The national curriculum for design and 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 bank 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.
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## Cross-curricular contribution
With Featherstone being a values driven school and the curriculum being topic based, Design Technology lends itself to many areas of the curriculum.

## English
Design and technology contributes to the teaching of English at Featherstone School by offering valuable opportunities to use what the children have been doing during their English lessons i.e. to articulate and reason their ideas, to compare and contrast their views with those of other people. Through grouped or paired discussions, children learn to justify their thinking behind their products.

## Mathematics

In design and technology there are many opportunities that can be found for children to apply their mathematical skills by firstly choosing and then using the appropriate ways of calculating both measurements and distances. Children learn how to check their results of calculations in order to see how appropriate they are and learn how to use it to a degree of accuracy for different contexts. Children learn to measure and use equipment correctly. They shall also carry out investigations and in doing so; they will learn to read and interpret scales, particularly whilst taking part in food technology. They will learn about size and shape and make practical use of their mathematical knowledge in order to be creative and practical in their designs and modelling.

## Information and communication technology (ICT)

At Featherstone, we aim to use technology in order to analyse current products on the market in order to create their design criteria. It is also used in order for the children to create their designs digitally in order to improve the accuracy of their designs.

## Healthy Body, Healthy Minds

Being a value driven school, Design and technology contributes to the teaching of personal, social and health education. We encourage the children to develop a sense of awareness and responsibility of following safe procedures when making things. Through food technology they learn about healthy eating and its impact on their lives. Their work encourages them to be responsible for what they eat and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

The teaching of design and technology offers opportunities to support the social development of children at Featherstone through the way we expect them to work with each other in lessons. Our knowledge of the groups allows children to work together, and give them the chance to engage in discussions about their ideas and how they feel about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. In addition to this it also allows those who have an aptitude for design technology to flourish.

Children will also develop a respect for the environment, for their own health and safety and of course those around them. They develop their cultural awareness and understanding by learning about different cultures, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

## Health and Safety

At all times, children will be taught how to care for and handle equipment and media safely. Particularly when working with tools, equipment and the variety of materials, in practical and in different environments, including those that are unfamiliar, pupils will be taught:

• About hazards, risks and risk control
• To recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
• To use information to assess the immediate and cumulative risks
• To manage their environment to ensure the health and safety of themselves and others

• To explain the steps they take to control risk staff should be aware of Health and Safety, manufacturers advise on the products they use and other information as circulated.

## Key stage 1 (Including Early years)

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in the 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

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.

## Key stage 2

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

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, 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.

Pupils should be taught to:

Key stage 1

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

Key stage 2

- 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.

## **Monitoring and Review**

- The Head teacher, Senior Leadership Team and DT Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and DT Subject Leader will report to the governing body on the effectiveness of the policy at least bi-annually and, if necessary, makes recommendations for further improvements.

## **Assessment, Record Keeping and Reporting**

- Children's standards and achievements in DT are assessed in line with the School's Assessment Policy which links to the Programs of Study provided by the Department of Education. Assessment in DT for years 1-6 will be by taking examples of children's work, looking at both planning and finished articles in learning journals, weekly class journals and displays.
- Assessment in DT will be about personal progress and development of skills involved rather than how good a piece of work is. Children cannot be assessed by their ability to produce great pieces of work (we are not all great artists) DT assessment is made upon the whole process, starting with the research and finishing upon the completion of their evaluation.

## **Equal Opportunities**

Every child will have access to our curriculum regardless of gender, ethnic or religious background, disability or learning ability. We will make every effort to use the resources to exploit the full potential for multi-cultural education that celebrates cultural diversity.

## **Monitoring and Review**

The Head teacher, Senior Leadership Team and Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and Subject Leader will report to the Governing Board on the effectiveness of the policy and, if necessary, makes recommendations for further improvements.