

*West Ashton Church of England
Primary School*



Design and Technology Policy

Dated: Dec 2021

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'You will shine among them like stars in the sky.'

Philippians 2:15 (NIVUK)

Introduction

Design and technology is an intricate part of our day to day lives and it is therefore important that our children are taught how this subject is of great importance in our rapidly changing world.

Children are encouraged to think creatively in order to solve problems and/or make improvements to existing ideas and products. It is through these methods that they can make positive changes to their own and others' lives. The teaching of design and technology enables children to identify needs and opportunities, and to respond by developing ideas and eventually making products and systems. Through the study of design and technology, they combine practical skills with an understanding of aesthetic, social and environmental issues. This allows them to reflect on and evaluate present and past design and technology, its uses and impacts. Design and technology gives the children the opportunity to work and think both as individuals and as part of a team.

As part of their work with food, children are taught how to cook and apply the principles of nutrition and healthy eating.

Intent

- to develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;
- to enable children to talk about how things work, and to draw and model their ideas;
- to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to explore attitudes towards the 'made' world and how we live and work within it;
- to develop an understanding of technological processes, products, their manufacture, and their contribution to our society;
- to foster enjoyment, satisfaction and purpose in designing and making;
- to enable children to recognise learning how to cook is a crucial life skill.

National Curriculum

Key stage 1 - 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 e.g. 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 e.g. 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 e.g. 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 - 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 e.g. 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 e.g. 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 e.g. gears, pulleys, cams, levers and linkages
- understand and use electrical systems in their products e.g. series circuits incorporating switches, bulbs, buzzers and motors
- apply their understanding of computing to program, 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

Staff use a variety of teaching and learning styles in design and technology lessons.

The principal aims are to develop children's knowledge, skills and understanding in design and technology and good preparation. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products, and then evaluating them. This is done through a mixture of whole-class teaching and individual or group activities. Within lessons, children are given the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including ICT.

Health and safety

Health and safety is important, particularly when working with tools, equipment and resources. Children are given suitable instruction on the operation of all equipment before being allowed to work with it.

Children are taught how to use tools and equipment correctly as well as recognise hazards and risk control.

Children are:

- strictly supervised in their use of equipment at all times.
- taught to respect the equipment they are using and to keep it stored safely while not in use.
- taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Recording children's work

Work will be recorded in a variety of ways depending on the project although the majority of evidence will be seen through displays of photos and the children's actual work.

Equality

Positive attitudes towards computing are encouraged, so that all pupils, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with design and technology.