



Berrycoombe School
Revised March 2021

Design and Technology Policy

Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. They are taught to look for opportunities 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 and evaluate past and present designs.

Aims

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 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.

Implementation

The Foundation Stage

There are many opportunities for carrying out design and technology related activities in all areas of learning in the EYFS. Within the Expressive Arts and Design strand it states that children should

- Use various construction materials
- Join construction materials together to build and balance.
- Understand that different media can be combined to create new effects.
- Manipulate materials to produce a planned effect.
- Use simple tools and techniques competently and appropriately.
- Select appropriate resources and adapt work where necessary.
- Select tools and techniques needed to shape, assemble and join materials they are using.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.



Key stage 1

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

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.



Teaching and learning

We plan the activities in Design and Technology so that they build upon the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding and we also build planned progression, so that the children are increasingly challenged as they move through the school. The teaching of design and technology is based on six key areas:

- Food
- Textiles
- Materials
- Construction
- Electricals and Electronics
- Mechanics

The skill areas will be taught individually and through a multi-skilled approach using appropriate guidance. Within these skill areas work from designers, inventors and architects will be used when and where appropriate to illustrate different techniques and approaches.

It is intended that all classes should work within these six areas in order to undertake a balanced programme of design and technology, which clearly builds on previous experience and takes account of earlier achievement.

Pupils should be given the opportunity to work individually, in groups and as a class.

Design and Technology and Computing

Computing enhances the teaching of Design and Technology, wherever appropriate, in all key stages. Children may use software to enhance their skills in designing and making things. The children also use computing to collect information and to present their designs through a range of design and presentation software.

Planning

Children learn best when learning activities are well planned, ensuring progress in the short, medium and long term. Our school has created its own curriculum carefully matching the knowledge and skills within a broader topic. For example children in year 3 and 4 learn the process of **designing** and **building** a museum diorama of a Viking village while learning about the Vikings. In this way children's understanding is broadened and deepened by placing their learning in a wider context.

Design and technology skills are taught via a two year rolling programme to ensure a broad and balanced curriculum whilst sharing resources, knowledge and skills between two teachers. Teachers work together to create detailed knowledge schemas for each unit of work.

Recording

It is essential that the type of recording be matched to the type of Design and Technology activity as well as to the needs and abilities of the child. A variety of recording methods are therefore used. These include pictures, structured worksheets, sketches, diagrams, flow charts, model making, written explanations and photographs. Work is either recorded in individual topic books or in the whole class floor book.

Health and Safety

Children should be taught to use items of protective clothing as appropriate and be encouraged to develop safe and tidy work practices. Teachers and pupils should be aware of potentially hazardous materials and tools in relation to their storage and use. Teachers will always teach the safe use of tools and equipment and insist on safe practice.

Teachers should be aware of the following:

- Children must not use cooking appliances unless under direct supervision from a responsible adult.
- Saws and other sharp objects (nails, needles, craft knives, etc) must be used under direct supervision. The teacher will make a judgement on the undertaking of activities involving sharp and / or potentially dangerous equipment depending on the age / ability of the children in his / her class. Some activities may be undertaken by an adult or in a small group or one to one situation as appropriate
- Perishable foodstuff must be stored sensibly and refrigerated if necessary. Care must be taken to ensure food is not used after the given sell by / use by date
- Teachers and adult support staff must oversee that cupboards, table tops, cooker etc, are clean and in working order
- Children must wash their hands before and after any contact with food and other potentially harmful substances
- Teachers must take into account possible food allergies to food such as nuts and should be aware of the location of any medication for the allergy



Equal Opportunities

All children should be allowed equal access to design and technology regardless of gender, race, or ability.

All children should be encouraged to express themselves through the medium of design and their efforts should be acknowledged as a means of helping individuals to gain self-esteem. To be creative in design and technology does not require children to meet expectations of accepted representational imagery.

Resources

Each classroom has their own bank of basic DT equipment. Consumables are stored within the DT cupboard. The subject leader will periodically prepare an inventory of resources and will buy new resources. Staff are expected to advise the subject leader when items are becoming depleted to enable stock to be replenished.

Assessment

The children's work will be carefully assessed using individual design books and floor books. This will inform the end of year assessments reported to parents.

Monitoring and review

The subject leader will monitor the teaching of Design and technology by all staff, as well as supporting all teaching staff with updates and resources throughout the year. This policy will be reviewed every two years.