Jarrow Cross Church of England Primary School

Design and Technology Policy
2022

Introduction

This policy was reviewed by the Design and Technology Coordinator in the Autumn of 2022.

Design and Technology is concerned with the ability to operate effectively and creatively in the made world. It involves both an understanding of the way things work and the use of materials and tools to modify, improve or create products. Design and Technology gives children opportunities to solve practical problems and to use materials available to solve problems in a man-made environment.

Design and Technology capability in this school is achieved through opportunities and experiences across the creative curriculum which enables pupils to take part in a broad range of activities directly concerned with:
Identifying needs, generating ideas, planning, making and evaluating

Design and Technology involves pupils in activities which allow them to design and make artefacts, systems and environments using a wide range of materials including: Textiles, Mechanisms, Construction materials and Food, as outlined in the National Curriculum.

Jarrow Cross Primary School have recently purchased a planning tool; 'Kapow' which supports children to progress their knowledge and skills effectively. This resource is also a supportive tool for staff to develop their professional development and allow teachers to deliver the Design and Technology curriculum with confidence.

Principles for the use of Design and Technology

Design and Technology is a way of learning, which spans and links the whole curriculum. In the primary school it has its roots in imaginative play, art and science.

It involves children in developing design and making skills, acquiring relevant knowledge and understanding and combining these in order to design and make products.

Specific Design and Technology research topics will be undertaken in accordance with the School's Creative Curriculum Map. Teachers will also present children with additional Design and Technology opportunities to support work in other curriculum areas.

Aims

Jarrow Cross aims to help our children to develop:

1. Enjoyment and pride in their technological and creative abilities.
2. Understanding and knowledge related to the technological and aesthetic aspects of their experience in the world around them, including the influence of technological achievements of different cultures, past and present.
3. Manipulative skills using a range of tools and materials.
4. Personal qualities of confidence, creativity, independence, initiative, perseverance, reliability and self-evaluation.
5. The communication, co-operation and collaboration skills required to works as a member of a group.
6. An awareness of the needs and safety of themselves and others.

Strategies for the use of Design and Technology

Subject content and Progression

Reception

The Reception year provides an important foundation for the development of design and technology capability. It extends and broadens the child's home experience, enabling the child to explore a wide variety of materials: sand, water, construction kits, food, paper, wood, textiles, playdough, plasticine, reclaimed materials etc., and to develop skills with simple tools. Some of these experiences will be structured and the children will be encouraged to talk about their observations and ideas with the adults working with them.

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 [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

Food Technology - 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

Recording and Assessment

Achievement, success and progression need to be experienced by all children when learning and being taught Design and Technology. The teacher needs to be aware of the progress being made, difficulties being experienced and expectations being met.

Assessment can take the form of monitoring children's discussions, question and answer with individuals or groups, feedback by children to the class and marking end products.

Children should be assessed against the expected outcomes for Design and Technology at the end of the year in accordance with the school's assessment policy.

Equality of Opportunity

All children should have the opportunity to work with a range of materials and techniques, although it may sometimes be appropriate for children to have differentiated work, longer or shorter sessions or work in groups of a selected nature.

Staff should be aware of and sensitive to medical conditions (e.g. allergies) and different beliefs and practices within the local community which might affect their work with food, materials or design.

Our work should reflect the fact that there are equally valid and appropriate solutions to problems which reflect the needs and beliefs of different cultures, past and present.

Health and Safety

Safety is of paramount importance in Design and Technology.
It is the teacher's responsibility to be aware of safety issues in all Design and Technology activities by:

- Providing a safe working area (furniture, materials storage, tool maintenance)
- Teaching and implementing safety rules and good practice, including hygiene
- Ensuring the safe and correct usage of tools and materials.
- Ensuring working areas are kept clean and tidy.
- Considering storage of partially completed work.
- Ensuring the correct disposal of waste.

The teacher is responsible for ensuring that children are adequately supervised when using tools and that other adults working in the classroom understand safety rules and maintain safety standards.

Safety rules and safety issues should be taught to all children.

Role of the Design and Technology Coordinator

The Design and Technology coordinator is responsible for:
* reviewing and updating the School's policies relating to Design and Technology,
* maintaining centrally stored tools and materials
* monitoring standards of achievement and progression,
* informing new staff of resources available to them
* coordination of assessment of Design and Technology
* offering advice on Design and Technology skills, knowledge and understanding if requested
* liaising with other curriculum coordinators to ensure coordination of resources for cross- curricular work
* keeping abreast of new developments with an impact on Design and Technology in the school
* maintaining a portfolio of evidence of children's work across the school

The classroom teacher is responsible for the delivery of the policy, the Scheme of Work and the care and security of the tools and materials in their classroom and other shared areas such as the technology resource area.

Resources

Design and Technology resources such as tools and materials for specific units are stored in labelled boxes in the Art and DT resource room within Key Stage 2. General resources such as corriflute, construction card, fabrics, balsa wood and mobile cookers etc. are accessibly stored on the left hand side of the Design and Technology resource room.

It is the responsibility of the class teacher to be aware of the resources needed for a particular unit and to ensure that they are available in consultation with the Design and Technology Coordinator.

Please note: health and safety regulations assert that children are not allowed in the Art and DT resource room without adult supervision. All teachers are responsible for collecting and returning resources and equipment to the designated areas within the resource storage area.

Materials used in the preparation of this policy statement:
Previous Design and Technology Policy (2000)
National Curriculum 2014
Guidance from the Nuffield Foundation and DATA