



Building a bright future for myself, my school and my community.

St Mary's CE Primary School

Design and Technology Policy

Introduction

Design and Technology prepares children to take part in the development of today's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them 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, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators. We live in a technological age, surrounded by artefacts and systems, which have been produced, designed and made for us by other humans working together in a complex range of activities.

Implementation

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children work in a range of relevant contexts (for example home, school, leisure, culture, enterprise, industry and the wider environment).

When designing and making, the children are 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 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.
- understand and use electrical systems in their products.
- apply their understanding of computing to program, monitor and control their products.

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.



- 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.

Teaching and Learning Strategies and Guidelines

Foundation Stage

We encourage the development of creativity, skills; knowledge and understanding that help children make sense of their world as an integral part of the school's work. We relate the development of the children's arts and design to the objectives set out in the Early Learning Goals. These underpin the curriculum planning for children aged three to five. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating, using and being creative with a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control. We provide a range of experiences that encourage creativity, exploration, observation, problem solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children's interest and curiosity.

Foundation Stage Content

Explore

A range of construction kits and a wide variety of materials e.g. play dough, clay, wire, wood, plastic, reclaimed materials, fabric, food and paints

Investigate

Uses of different materials, e.g. appropriateness of adhesives and chosen materials, cloth, cardboard, paper, bricks, soil, sand etc.

Communicate

Using the correct language for and use of a range of tools and equipment

Design

Using imagination and creating what they have imagined

Food

Identify healthy food

This content is implemented through planned, purposeful play and through a mix of adult-led and child-initiated activity offering the three characteristics of effective teaching and learning: playing and exploring; active learning; creating and thinking critically.

Key Stages 1 and 2 - Programmes of Study for design technology are set out annually for Key Stages 1 and 2. We teach the relevant Programme of Study by the end of the Key Stage, recognizing that we have the flexibility to introduce content earlier or later than set out in the Programme of Study within each Key Stage or introducing key stage content during an earlier key stage if/as appropriate.

Key Stage 1 Content

Design

Purposeful and functional products, generate ideas through communicating, drawing and modelling.

Make

Select from a range of tools, equipment and materials to perform practical tasks.

Evaluate

Explore and evaluate a range of existing products and their own ideas against their work.

Technical Knowledge

Explore and use mechanisms (levers, sliders, wheels, axles).



Cooking and Nutrition

Use basic principles of a healthy diet to prepare dishes and know where food comes from.

Key Stage 2 Content

Design

Use research and develop design criteria to inform the design of innovation, functional, appealing products that are fit for purpose, aimed at particular individual 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.

Select and use a wider 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.

Technical knowledge

Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Understand and use mechanical and electrical systems in their products.

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.

Health and Safety

Whilst health and safety considerations and risk assessment remain the primary responsibility of the teacher in charge, the children should be taught to;

- Reduce risks through responsible behaviour and use good practice to avoid hazardous situations developing.
- Abide by simple safety rules when using tools or equipment.
- Consider and recognise hazards in their proposed ways of working, and take action to minimise them.
- Assess the risk of hurt or damage posed by evaluating their own and others designer's products and suggest remedial action.
- Store tools and materials with due regard, and organise their working environment/practices safely.

Areas for special concern include, e.g.;

- The use of hot-melt glue guns and saws. These both require pupil to wear adequate eye protection (goggles) and to be aware of what to do in the event of a minor injury.
- Food Technology lessons require that hygiene is given the utmost priority. Activities involving the use of cookers/ovens/microwaves require a high level of supervision with appropriate safety /protection clothing being available.
- Fabric work that involves scissors, sharp cutting tools, pins and needles requires careful resource management. Children should be taught simple storage strategies for dealing with sharp objects that are 'not in used'.
- Construction kits may pose some small risk (particularly at EYFS & KS1) and children should be warned of the dangers of placing pieces in their mouth etc.
- Safe practices for handling soft mouldable materials should also be taught to minimise small pieces being inappropriately used!



- Contact with foodstuffs and other materials likely to cause allergic reactions should be avoided.

Equal opportunities

This policy applies to all children regardless of their preferred gender description, ethnicity, colour, ability or disability, English language proficiency, religion, lifestyle or nationality. The accurate match of work to individual and group need is met through effective planning and delivery, based upon assessment and monitoring of progress. All children are challenged through provision, especially 'more able' pupils in design technology. Strategies are used accordingly, such as scaffolding learning, differentiation, e.g. variation in presentation of work or recording, targeted adult support or intervention strategies, mixed ability groups in investigative work which can be beneficial to all learners etc. Vocabulary will be reinforced for all children, in particular EAL pupils, e.g. through displays etc.

SEND Inclusion

Pupil with Special Educational Needs or Disabilities receive support from their class teacher to undertake appropriate tasks/projects matched to their needs and ability. All pupils will generally work in mixed ability groups, with individuals making a valued contribution to the overall process. This promotes self-reliance, self-esteem and a collaborative attitude. Pupil with learning difficulties who may need support with literacy and numeracy may well exhibit well-developed dextrous and practical skills, and should be provided with appropriate opportunities to develop their potential. Opportunities should be provided for pupils to communicate their ideas other than through writing or drawing. Help in realising their ideas into drawings or models could be achieved through means of a facilitator.

Pupil who possess physical difficulties in manipulating materials or tools may need specific support to help develop their skills into tangible experiences. Processes should be adapted to suit pupils with limited dexterity. Pupils with physical disabilities should be given opportunities to use multi-sensory approaches to gain understanding about different products and to use this information to generate ideas. Able pupil who demonstrate a high ability level should be presented with increasingly challenging assignments within the context or theme of the whole –class project.

Current Assessment, Recording and Reporting Strategies

Formative assessment - Teacher assessments are made throughout the units of work, through discussion, observation and marking/ scrutiny of work and this informs planning. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Pupils' achievement can be assessed in a variety of ways. These include direct observation, discussion and questioning of pupils as well as by evaluation of the finished product itself. Teachers should collect evidence of individual, group or class work for assessment purposes, chosen from the following formats: Pupils' annotated sketches/plans/drawings; photos/videos of part or completely finished work (products); children's own written/verbal evaluations of their tasks/activities; appraisal evaluation of the finished article. These types of records can be used to accumulate a snapshot of current D&T practice within the subject portfolio for the whole school. Displays of work will serve to reinforce and celebrate success in D&T activities.

The Role of the Subject Leader

School expectations for subject leaders to promote professional leadership and management of subjects are fully outlined in the '[Job Description for Curriculum Subject Leader](#)' and relevant [Job Specification](#). The Subject Leader's role is to secure high quality teaching, effective use of resources and the highest standards of teaching and learning and achievement for all pupils.

Objectives for subject leadership include:

- To ensure pupil entitlement to the National Curriculum
- To continuously raise standards of pupils' achievement at all levels
- To foster enjoyment and satisfaction in the study of the subject



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- To enhance the teaching of the subject

and principal responsibility areas include:

- A. Strategic direction
- B. Teaching, learning and the curriculum
- C. Leading and managing staff
- D. Managing resources

To be read with:

Learning and Teaching Policy

Feedback, Marking and Assessment Policy

Curriculum Policy

Monitoring and Review

This policy will be monitored by the school governors and reviewed triennially, or as new legislation determines.

Written: September 2019

Reviewed: November 2020