Saint Marys Catholic Primary School

Design and Technology Policy

September 2015

Introduction

Design and Technology is a foundation subject in the National Curriculum. This policy outlines the purpose, nature and management of the design and technology taught in our school.

Design and Technology encourages children to think creatively and problem solve. Through the study of design and technology pupils learn to work collaboratively as a team to design and make products in a variety of contexts. Children also learn to take risks and to reflect on and evaluate their work. Through this subject children can explore past and present design and technology and develop a critical understanding of its impact on their daily life and the wider world.

At our school we strive to deliver a curriculum that will guide and support our children into becoming resourceful, innovative and capable learners.

We believe that all children should have the opportunity to learn and explore ideas through Design and Technology regardless of ability, race, religion, language or gender.

Aims

The 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 increasing 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.

Teaching Objectives

Practical experiences are central to this subject. Children need to explore and develop their own ideas. They need to be given time to evaluate their work and the work of others. A positive attitude should be developed towards overcoming problems. Children should be given the opportunity to work collaboratively and independently on projects. Design and Technology as a subject should aim to show children that we do not always work towards pre-ordained solutions.

Key Stage 1

Pupils should be taught:

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 and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)
- select 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.

Cooking and Nutrition

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

Key Stage 2

Pupils should be taught:

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 explored 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 an 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

- 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.

Principles of Teaching and Learning

Design and Technology is a foundation subject in the National Curriculum. In our school D&T is taught from Year 1 through to Year 6 as part of the Creative Curriculum. Teachers plan each unit of work using the creative curriculum map to give details of skills to be focussed on that term. Design and Technology is taught as part of a 'topic' for each class and planning will be completed through a cross curricular approach ensuring the DT has a link to the topic being studied.

Teachers from Foundation stage to Year 6 will plan to ensure the full coverage of the skills relating to the Design and Technology curriculum for each year group throughout the year. Teachers will plan before the start of each theme which key skills will be covered in the unit. They will then develop and plan lessons connected to each skill.

The teaching method will vary according to age and children will be given the opportunity to work individually, in groups and as a whole class.

Skills in the Foundation Stage are planned though the objectives within the EYFS. The EYFS teacher will plan opportunities where children can learn through talk and play. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control.

The Design and Technology subject leader will monitor the experiences and work undertaken by children throughout the school to ensure the curriculum is balanced and there is progression throughout the school.

Assessment

Teachers assess work in design and technology by making observations of the children working during lessons. They record progress made against the learning objectives for that lesson.
Due to the practical nature of design and technology, evidence of work undertaken by children can be in the form of teacher's notes or as a photographic record. Samples of the design process and end product are also valuable evidence.

Ongoing assessment is carried out by the teachers and an annual assessment of progress is made for each child against the key objectives using the Attainment Targets grid (excel document). This information is then passed on to the next teacher and subject co-ordinator at the end of the year.

Children's progress is made available to parents on each child's annual report at the end of each academic year.

Monitoring and Review

The monitoring of the standards of children's work and teaching in Design and Technology is the responsibility of the D&T subject leader. The work of the subject leader also involves supporting colleagues in the teaching of art and design, keeping them informed about current developments in the subject. Lesson observations are also, occasionally, undertaken and the subject coordinator regularly reviews and keeps records of evidence of the children's work. The subject leader will also monitor attitudes throughout the year using pupil questionnaires. The D&T subject leader produces an annual summary report for the Headteacher in which s/he evaluates the strengths and weaknesses in the subject, and indicates areas for further improvement as a result of monitoring throughout the year.

Organisation of Resources

Our school has a wide range of resources to support the teaching and learning of this subject across the school. Classrooms have a range of basic resources, with the more specialised equipment being ordered by the subject leader upon request.

Cooking and food technology equipment is stored in the school teaching kitchen located in the KS2 area. Computing resources are also available in the KS2 area such as the ICT suite and a class set of laptops. Each teacher also has an IPad which can be used to support learning.

Special Educational Needs

All children at Saint Mary's Catholic Primary School will have the same chance to participate in Design and Technology. In all classes there are children of different ability. We aim to provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs.
It is the responsibility of each class teacher to ensure the individual needs of each child are met through appropriate differentiation and support.

Health and Safety

Children should always be working in a safe environment, both in and out of school. Children should be taught how to use tools correctly and safely. Children are taught how to follow proper procedures for food safety and hygiene When working outdoors or off premises children should be properly supervised and made aware of any potential danger or hazards. Where pupils are to participate in activities off site, we carry out a full risk assessment prior to the trip to ensure that the activity is safe and appropriate for all pupils.

Parental Involvement

As with all areas of children's learning, the support of parents and carers helps to enrich a child's learning experience. This includes helping their child with any Design and Technology research or homework which may be set.

Art & Design Co-ordinator: Elaine Hargrove