

St Marie's Catholic Primary School

Design and Technology Policy



'The Love of Christ, nurture, guide and inspire us.'

Approving Body	Full Governors Committee Head/Leadership team	Review Term: 1yr/2yr/3yr Autumn Spring Summer
Signature:	Chair of the relevant body	March 24
Review Date:	March 25	Version: (applicable if changed within the review period, if no changes this would remain as version 1)

MISSION STATEMENT



'The Love of Christ, nurture, guide and inspire us.'

To do this we will:

- Be a Christian community that lives the Gospel values; 'Love of Christ' (Christ centred)
- Provide opportunities for all to grow and achieve by igniting a desire for learning; 'Guide and inspire' (Education)
- Be a haven of peace and love that enables all to thrive; 'Nurture' (Community)

Objectives: Christ Centred

- Provide high quality collective worship and enriching liturgical celebrations
- Enable our children to acquire an excellent religious education and develop their relationship with God
- Share faith, love and hope in the likeness of Mary, Mother of God
- Provide a safe harbour where all can succeed

Objectives: Education

- Have high expectations of ourselves and others in all that we do
- Value our pupils and staff, appreciating their uniqueness and individual talents, enabling them to achieve well
- Provide a curriculum that opens the world, in all its awe and wonder, to our pupils

Objectives: Community

- Create a peaceful, happy school where all feel welcomed and valued
- Nurture and grow our pupils and community in the Gospel values
- Celebrate each person as a beautiful work of art, created on God's image

Key Objectives and Priorities	Success Criteria
<p>Christ at the Centre</p> <p>1. Priority: Culture</p>	<ul style="list-style-type: none"> ✚ Ensure that staff and pupils are clear on whole school expectations, routines and behaviours ✚ Pedagogy, policies and procedures are shared and implemented with fidelity ✚ Relationships across the school community become strong ✚ Staff seek every opportunity to promote learning within and beyond the school day ✚ Pupils and staff have the tools needed to ensure resilience in their learning and wider lives
<p>2. Priority: Aspiration</p>	<ul style="list-style-type: none"> ✚ School has unapologetically high aspiration for our children through a fully understood, common pedagogy ✚ All children can access a low floor-high ceiling, fully resourced, holistic curriculum that meets our high aspirations which staff are equipped to deliver ✚ Percentage of children at greater depth standards is rapidly closing the gap with national
<p>3. Priority: Resources</p>	<ul style="list-style-type: none"> ✚ The staff structure, skills and knowledge meet the needs of the school ✚ ‘The curriculum’ is fully resourced and meets the needs of our children with effective schemes of work, curriculum knowledge and skills progression maps ✚ All staff receive high quality assured CPD that improves learning for all pupils
<p>4. Priority: Community</p>	<ul style="list-style-type: none"> ✚ Parents are well equipped to support children learning in school and at home ✚ Families are well supported to meet our aspirations for our children, i.e. through uniform and attendance ✚ Our community is well involved in school life, e.g. Parent Council, FAF group etc
<p>5. Priority: Environment</p>	<ul style="list-style-type: none"> ✚ The school building and grounds are a safe place to work and play ✚ The buildings and classrooms promote our high aspirations

Rationale

At St Marie's Catholic Primary School, we are committed to providing a high-quality education for all of our pupils. We ensure all children have equal opportunities to access the whole curriculum, in a supportive and inclusive setting. We provide teaching which ensures learning is rich, stimulating and challenging and enables all children to reach their potential. We feel it is vital to nurture creativity and innovation through design by exploring the designed and made world in which we all live and work. At St. Marie's School, Design and Technology is delivered as part of a whole school approach that includes:

- Teaching as a discreet, timetabled subject
- Delivery as part of other curricular activities, making links wherever appropriate
- Engaging in extra-curricular activities such as clubs, class trips and visitors

What is Design and Technology?

Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Why Teach Design and Technology?

Design and Technology gives children the opportunity to develop skill, knowledge and understanding of designing and making functional products. It also prepares children to take part in the development of tomorrow's rapidly changing world. 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 of functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts.

Children should be taught Design and Technology so that they:

- Acquire a broad range of subject knowledge
- Draw on disciplines such as Mathematics, English, Science, Engineering, Computing and Art
- Learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens
- Develop an understanding of how past and present design and technology impacts their daily life and the wider world
- Understand that design and technology can make a contribution to the creativity, culture, wealth and well-being of the nation

Aims

As a result of our teaching of Design and Technology pupils should be able to:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and 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
- Constructively 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
- Talk about how things work, and to draw and model their ideas
- Select appropriate tools and techniques for making a product, whilst following safe procedures
- Develop an understanding of technological processes and products, their manufacture and their contribution to our society
- Foster enjoyment, satisfaction and purpose in designing and making things
- Develop the cross-curricular use of design and technology in other subjects

Foundation Stage:

Design and Technology in the Foundation Stage comes under various parts of the EYFS curriculum, including but not limited to; expressive arts and design, health and self care and space shape and measure. Design and technology in the Foundation Stage is an integral part of the learning that takes place throughout the year. The Design Technology aspects of the children's work can be seen in adult led activities, enhanced continuous provision and child led play.

In the Foundation Stage we provide opportunities for children to:

- Develop a curiosity and interest in the made world through investigating, talking and asking questions about familiar products
- Develop confidence and enthusiasm through frequent exploration
- Develop construction skills to build and construct objects, and provide activities for exploring joining, assembling and shaping materials to make products
- Providing opportunities to learn about health eating and a range of foods
- Extend their vocabulary through talking about and explaining their designing and making activities

Key Stage 1 and 2:

All maintained primary schools in England are required to follow the National Curriculum, which includes Design and Technology as a compulsory subject at Key Stages 1 and 2. A new statutory programme of study was introduced in September 2014. Below is what the programmes of study state should be taught at KS1 and KS2:

Subject content 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 iterative¹ 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, mockups 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

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 Approaches

All teachers are encouraged to use a repertoire of flexible, active learning methods, as well as an understanding of how children learn during their Design Technology lessons. A range of teaching approaches are employed in the teaching of Design and Technology and may include a variety from the following:

- Encouraging an active, questioning approach among the children
- Problem solving, with older children deciding on their own lines of enquiry
- Developing strategies to encourage independent learning
- Direct teaching of skills and concepts and opportunities to apply these
- Individual, group and class work

- The teacher taking on the role as provider and facilitator, to directly teach skills and to act as a consultant to the children

Planning

Our school uses the National Curriculum 2014 for Design and Technology as the basis of its long-term curriculum planning. Our framework shows how Design and Technology coverage is ensured through a rolling programme, as well as incorporating the Early Years Framework. The programmes of study for Design and Technology are set out for key stages 1 and 2. Teachers are careful to select topics and methods of delivery that are appropriate to the needs and experience of the children and to the local circumstances of the school.

School Curriculum Principles

When planning a unit of work, the characteristics of genuine Design and Technology experience will be followed:

User	Pupils should consider who their projects are for
Purpose	Pupils should decide which tasks their products will perform
Functionality	Pupils should think about how their products should work
Design decisions	Pupils should have opportunities to make informed choices
Innovation	Pupils should have scope to be original with their thinking
Authenticity	Pupils should design and make products that are real, believable and evaluated through use

Special Needs

Most tasks will be differentiated by outcome or by varying the criteria for success but children with special needs can also be catered for by receiving more adult help whether for support with a basic skill or by one to one supervision for very able children with an advanced skill, e.g. using a glue gun.

Equal Opportunities

All children receive full provision regardless of gender, race etc.

The role of the Subject Leader

The Subject Leader will attempt to:

- See that the Design and Technology Curriculum is properly introduced and resourced
- Act as a consultant for staff and provide advice and support
- Monitor work to check that continuity and progression are taking place in accordance with the Design and Technology Curriculum
- Monitor and review children's work and quality of teaching
- Lead CPD for staff following any CPD they may attend
- Keep staff up to date with current developments in Design and Technology
- Review the strengths and weaknesses in Design and Technology and indicate areas for further development

Assessment, Reporting and Recording

Assessment will be built into the short term/medium planning of the subject, either regularly in small steps, or to complete a unit of work. All class teachers are responsible for short and medium term planning based on long term plans. They will:

- Identify the appropriate teaching and learning strategies required
- Provide a balance and variety within the classroom – of content and organisational opportunities for pupils
- Assess and plan the specific needs of children within their own class whilst adhering to the progression and long term planning.

Health and Safety

Throughout this subject there is a requirement to teach and adhere to health and safety. Teachers are required to complete risk assessments for their lessons as and when deemed necessary. In addition, children will be taught how to follow proper procedures for food safety and hygiene. Examples of health and safety precautions are:

- Children should not use craft knives
- Children should only use glue guns under one to one supervision when a member of staff is satisfied they are competent to do so
- Staff should not allow children to use tools unless they are competent and confident in using them themselves
- Children using tools will be adequately supervised. By the end of KS2 we want our pupils to have developed a clear understanding of safe working practice. Children are encouraged to share the responsibility for maintaining a high standard of safety by:
 - helping to negotiate safety rules
 - visually checking the conditions of tools
 - using tools in the way they have been taught
 - replacing tools after use

References:

Design and Technology Programmes of Study: Key Stages 1 to 3
National Curriculum in England