St Peter's Roman Catholic Primary School

Design Technology Policy

Mission Statement

This policy reflects our Mission Statement. We aim to provide education to all pupils in the Roman Catholic faith as well as children of other faiths and backgrounds from our catchment area. As a school community we observe the rites, practices and doctrines of the Roman Catholic Church. We take Jesus Christ as our model and the children are encouraged by word and example to live according to his Gospel in order to develop love and forgiveness, worship and prayer, truth and justice, freedom and tolerance, compassion and respect for others.

In keeping with the Catholic ethos of the school, we recognise that each child is a gift from God with his or her own abilities and needs. St Peter's RC Primary School is committed to meeting the medical needs of pupils and ensuring that they access full time education and are properly supported in school, so they can play a full and active role in school life and achieve their academic potential.

Why teach 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." (Primary National Curriculum 2014)

Design and Technology, prepares children to take part in the development of tomorrow'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.

Design and Technology Curriculum Intent

The teaching of Design and technology enables children to identify needs and opportunities, and to respond by developing ideas and eventually make 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 impacts.

Design and Technology at St Peter's school develops children's skills and knowledge in design, structures, mechanisms, electrical control and a range of materials, including food. It encourages children's creativity and encourages them to think about important issues

In Design and Technology our children will learn how to work safely and with increasing control and accuracy with tools and materials. Pupils will become resourceful, innovative, creative, enterprising and capable citizens. They will develop their creativity, imagination and social interaction skills to design and make successful working products that satisfy their brief or agreed criteria. They will be involved in the processes through designing, planning, making, evaluation and refinement. Design and technology at St Peter's gives the children the opportunity to work and think both as individuals and as part of a team, which helps them develop and learn while demonstrating the Christian values of our school.

Active Learning in Design Technology

At St. Peter's, we are committed to engaging pupils in active, purposeful learning across all subjects. We believe that children learn best when they are fully involved in their learning. Physical movement, collaboration, and hands-on experiences help to deepen understanding, improve focus, and promote lifelong learning.

Wherever possible, we encourage lessons that allow pupils to get out of their seats - to move, think critically, explore, and interact with others both inside and outside the classroom. Across all subjects, active learning strategies are embedded to engage pupils, enhance progress, and make learning meaningful and memorable - supporting our simple but powerful approach: '*Sit less, move more and learn better*!'

Design and Technology Aims

All pupils are entitled to have access to the design and technology curriculum regardless of ability race, gender, cultural background or any physical or sensory disability.

The aims of design and technology for the children at St Peter's are:

- To participate in creative and practical activities and understand the importance of design and technology in the wider world;
- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- To enable children to talk about how things work, and to draw and model their ideas.
- To foster enjoyment, satisfaction and purpose in designing and making things.
- To develop their capability to create high quality products through combining their designing and making skills with knowledge and understanding.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To select, use safely and explore a range of materials, tools, resources and equipment.
- To explore attitudes towards the made-world and how we live and work within it.
- To develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.

- To use the internet to explore ideas and already made products.
- To be analytical and critical when they are considering and analysing products;

Implementation

Planning of Design and Technology

Design and technology is a foundation subject in the National Curriculum. To assist in short term planning our school uses the school curriculum map as a starting point to plan. Alongside this, is assessment criteria for each year group and planning ideas for each project. Children work on the same projects in KS1 and on a different project in KS2 each term. These are carefully planned so that different skills are developed in each year group within each project. Teachers then develop lesson plans to teach lessons based on the skills required for the year groups they teach. One project is planned per term. Progression of skills and knowledge is planned into the projects and children are increasingly challenged as they move through the school.

Teaching of Design and Technology

There are three core activities children engage with in Design and Technology:

- Activities which involve investigating and evaluating existing products
- Focused tasks in which children develop particular aspects of knowledge and skills
- Designing and making activities in which children design and make 'something' for 'somebody' for 'some purpose'

These three activities are combined in sequence to create a Design and Technology project. The teaching of Design and Technology in each year group is arranged and organised by the teaching staff. They use a variety of teaching and learning styles in design and technology lessons. The principal aim is to develop children's knowledge, skills and understanding in design and technology. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. We do this through a mixture of whole-class teaching and individual/group activities.

The teaching of design and technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

Links with other subject areas

English

Design and Technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing during their English lessons. The children explain their designs orally or on paper and later, the evaluation of their products, require children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

Mathematics

Many of the Design and Technology units provide the opportunity to use their mathematical skills in real-life situations and contexts. The main areas of mathematics

covered in these units are: solving real-life problems, measuring, shape and space and handling data

Science

Many projects provide opportunities for children to use and develop scientific knowledge and understanding. There are opportunities for pupils to use their knowledge and understanding through: working with a range of materials, eg: a range of fabrics and a range of different types of paper and card; working with electrical circuits and switches and working with food products related to healthy eating.

Art and Design

Many projects provide opportunities for pupils to use and develop creative skills, knowledge and understanding. Opportunities exist for pupils to use their creative knowledge, skills and understanding through: the use of pattern, texture and colour; experimenting with visual elements such as pattern and shape; investigation of products from a range of cultures and safe use of materials and tools.

Personal, Social and Health Education (PSHE) and Citizenship

Design and Technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn more about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food. Design and Technology also provides opportunities for working collaboratively with other and developing teamworking skills.

Teaching Design and Technology to Children with Special Needs

We teach Design and Technology to all children, with due regard to their ability. Design

and Technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers provide learning opportunities that are matched to the needs of children with learning difficulties. Work in design and technology, takes into account the targets set for individual children in their Individual Education Plans (IEPs). Teachers will adapt projects for the needs of children with SEN if required.

Achievement in Design and Technology

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the attainment targets.

Key Stage 1

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 wide range of tools and equipment to perform practical tasks
- 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 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

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
- select 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

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

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

The Early Years Foundation Stage

We encourage the development of skills, knowledge and understanding that help Reception children make sense of their world as an integral part of the school's work. As the Reception children in class 1 are part of the Early Years Foundation Stage we relate the teaching of design and technology skills to the teaching and development of the children's Physical Development and Expressive Art and Design and Knowledge and Understanding of the World and to the objectives set out in the Early Learning Goals in these areas. 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 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.

We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children's interest and curiosity.

Assessment

Pupils' achievements 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 pupils 'at work'; specific assessment assignments to evaluate a particular capability; 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. Teachers use See saw to collate and store children's work in DT.

Health & Safety

Whilst Health and Safety considerations & 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 other designer's products and suggest remedial action
- Store tools and materials with due regard, and organise their working environment / practices in a safe way.

Areas for special concern include;

- The safe use of hot-melt glue guns and saws.
- Close supervision when the children are using glue-guns, saws, hammers, kitchen knives etc.
- 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 / protective 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 use'.

- Construction kits may pose some small risk (particularly at KS1) and children should be warned of the dangers of placing pieces in their mouths 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.

Resource Management

Funding for Design and Technology will be within the school budget plan for each financial year. There is a central curriculum budget to cover the purchase of equipment such as tools, construction kits, consumable materials, books and other resource materials. The Subject Leader will be responsible for ordering equipment and materials related to the Project for each half term. Equipment and materials have been organised in the hall cupboards and for less used equipment in the club room. This will be maintained by the Design and Technology subject leader. Any shortages, breakages or losses should be reported immediately to the Design and Technology subject leader.

Monitoring and Review

The monitoring of the standards of children's work and of the quality of teaching in Design and Technology is the responsibility of the Design and Technology subject leader. The Design and Technology subject leader keeps evidence of the selection of children's work at different ability levels in each project, in our online portfolio on See Saw. This is then reviewed and compared with what the expected level of achievement is and the projects and learning in Design and Technology is evaluated and reviewed so that teaching can be refined and improved the next time the project is taught.

The work of the subject leader also involves supporting colleagues in the teaching of Design and Technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The Design and Technology subject leader completes an annual action plan which is shared with the staff and headteacher and which highlights the strengths and weaknesses in the subject and indicates areas and actions for further improvement.

Useful websites that support D&T;

Design and Technology Association www.data.org.uk

www.dtonline.org

www.howstuffworks.com

Food;

www.food.gov.uk

www.milk.co.uk

www.foodafactoflife.org.uk/

www.foodandhealth.com

Mechanisms;

www.cabaret.co.uk

www.sagecraft.com/puppetry