

St Mary's Catholic Primary and Nursery School, A
Voluntary Academy



Design Technology Policy

Vision: 'A Journey to Excellence' We believe that each child is made in the image and likeness of God therefore we develop the 'whole child' to reach their individual potential. We have high expectations and celebrate success both academically and socially. We aim to provide an outstanding Catholic education so that we can make a valuable contribution to the community in which live and serve.

Mission statement: 'We are happy living and learning in God's Friendship'

Statement of intent

The Design Technology curriculum at St Mary's is engaging, creative and purposeful. Children are given the knowledge and skills to design, make and evaluate work whilst building positive relationships with others. All children are encouraged to work as a team when problem solving and to share ideas and opinions freely. The quality teaching of Design Technology allows for a wide variety of opportunities, including learning new skills needed for the real world through a practical approach to lessons. Cooking is one of the areas which is regarded as an important area of the Design Technology curriculum and an area which all children enjoy. They also experience and develop an understanding of a variety of materials and tools. We aim to fulfil this by allowing children to:

- Develop their design and making skills.
- Develop their knowledge and understanding of design and technologies.
- Use a wide range of tools and materials.
- Learn about working safely and using protective measures.
- Work individually and collaborate with other pupils in a variety of contexts.
- Develop the capability to create products of a high standard through skills and understanding.
- Evaluate products, made by themselves, their peer groups and external companies.
- Explore the man-made world and encourage discussion of how we live and work within it.
- Develop an interest in and an understanding of technological processes and the role of manufacturing in society.
- Become creative thinkers and learners, exploring their ideas and recording their experiences.
- Learn the principles of nutrition, healthy eating and how to cook.

1. Legal framework

1.1. This policy has due regard to statutory legislation, including, but not limited to, the following:

- DfE 'Statutory framework for the early years foundation stage' 2017
- DfE 'Design and technology programmes of study: key stages 1 and 2' 2013

2. Early years foundation stage (EYFS)

2.1. All pupils in the EYFS are taught D&T as an integral part of the topic work covered during the academic year.

2.2. All D&T objectives within the EYFS are underpinned by the three prime areas outlined in the 'Statutory framework for the early years foundation stage':

- Communication and language
- Physical development
- Personal, social and emotional development

2.3. There are four specific areas through which the three prime areas are strengthened and applied – these are as follows:

- Literacy

- Mathematics
- Understanding the world
- Expressive arts and design

2.4. The D&T curriculum in the EYFS has a particular focus on the specific areas of expressive arts and design and understanding the world.

2.5. In the EYFS, pupils will be taught to:

- Recognise that a range of technology is used in places such as at home and in schools.
- Select and use technology for particular purposes.
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Represent their own ideas, thoughts and feelings through D&T, art, music, dance, role-play and storytelling.

3. KS1 – D&T

3.1. By the end of KS1, pupils will be taught to develop the abilities outlined in this section.

3.2. Design

- To design purposeful, functional and appealing products for themselves and other users based on design criteria.
- To generate, develop, model and communicate their ideas through talking, drawing, templates and mock-ups and, where appropriate, information and communication technology.

3.3. Make

- To select from and use a range of tools and equipment to perform practical tasks, e.g. cutting, shaping, joining and finishing.
- To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

3.4. Evaluate

- To explore and evaluate a range of existing products.
- To evaluate their ideas and products against design criteria.

3.5. Technical knowledge

- To build structures, exploring how they can be made stronger, stiffer and more stable.
- To explore and use mechanisms, e.g. levers, sliders, wheels and axles, in their products.

3.6. Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to progress to KS2.

3.7. Pupils will work in a range of relevant contexts, e.g. the home, school, leisure, enterprise, industry and the wider environment.

4. KS2 – D&T

4.1. By the end of KS2, pupils will be taught to develop the abilities outlined in this section.

4.2. Design

- To use, research and develop design criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

4.3. Make

- To select from and use a wider range of tools and equipment to perform practical tasks accurately, e.g. cutting, shaping, joining and finishing.
- To 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.

4.4. Evaluate

- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key events and individuals in D&T have helped shape the world.

4.5. Technical knowledge

- To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- To understand and use mechanical systems in their products, e.g. gears, pulleys, cams, levers, and linkages.
- To understand and use electrical systems in their products, e.g. series circuits incorporating switches, bulbs, buzzers and motors.
- To apply their understanding of computing to program, monitor and control their products.

5. Cooking and nutrition

5.1. 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 greatest 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.

5.2. By the end of KS1, pupils will be taught to:

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

5.3. By the end of KS2, pupils will be taught to:

- 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.

6. Roles and responsibilities

6.1. The curriculum leader alongside the subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subjects.
- Reviewing changes to the national curriculum and advising teachers on their implementation.
- Monitoring the learning and teaching Design Technology, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subjects to all teaching staff and the senior leadership team (SLT), as appropriate.

- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subjects.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution Design Technology to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development Design Technology in subsequent years.

6.2. The classroom teacher(s) is/are responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' D&T skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the curriculum leader and subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this to parents on an annual basis.
- Reporting any concerns regarding the teaching of the subjects to the subject leader or a member of the SLT.
- Undertaking any training that is necessary in order to effectively teach the subjects.

6.3. The special educational needs coordinator (SENCO) is responsible for:

- Liaising with the subject leader in order to implement and develop specialist D&T based learning throughout the school.
- Organising and providing training for staff regarding the curriculum for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of D&T objectives in pupils' individual education plans.

- Advising staff on the use of TAs in order to meet pupils' needs.

7. Equal opportunities

7.1. We are an inclusive school that ensures all pupils are provided with equal learning opportunities, regardless of social class, gender, culture, race, disability or learning difficulties.

7.2. In order to ensure pupils with SEND achieve to the best of their ability, outcomes are adapted and the delivery of D&T curriculum is differentiated for these pupils.

7.3. The planning and organising of teaching strategies for each subject will be reviewed on an annually basis by the subject leader to ensure that no pupil is at a disadvantage.

7.4. The school aims to maximise the use and benefits of D&T as one of many resources to enable all pupils to achieve their full potential.

8. Cross-curricular links – D&T

8.1. English:

- D&T offers the opportunity to reinforce what pupils have been learning during English lessons. Discussion, drama and role-play are important methods that the school employs to help pupils develop an understanding of people's different views and opinions of D&T and society.

- Evaluating products requires pupils to articulate and formulate their ideas to compare their views with other pupils' views; through discussion, pupils will learn to justify their own views and clarify their design ideas.

8.2. Maths:

- D&T will assist pupils in learning about shape and size and will make use of what they have already learned in maths lessons.

- Pupils will carry out investigations, and by doing this they will learn to read and interpret scales, collect and present data, as well as draw their own conclusions.

8.3. PSHE:

- D&T lessons will be used to teach pupils how to discuss their own work and the work of others.

- Pupils will be taught about health and hygiene, including diets, and how to prevent disease from spreading when working with food.

8.4. Spiritual, moral, social and cultural development (SMSC):

- Teaching D&T offers opportunities to support the social development of pupils through the way they are expected to work with each other in lessons.

- D&T helps pupils develop a respect for other pupils' abilities. Working in groups encourages collaboration and gives pupils the opportunity to learn from each other and share ideas and feelings.

8.5. ICT:

- ICT enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording their work.

- Utilising ICT also benefits pupils by helping them collect information and present their designs and ideas through a range of design and presentation software.

9. Health, safety and hygiene

9.1. In order to maximise their learning experience, pupils are allowed full access to a wide range of materials D&T lessons; however, health and safety concerns are inherent including storing materials and tools, and the use of equipment.

9.2. Personal protective equipment (PPE), such as gloves, head protection, eye protection and hearing protection, is made available to all pupils and teachers.

9.3. The risks of each task will be assessed by the classroom teacher and subject leader before lessons, and relevant PPE will be compulsory based on their decisions.

9.4. Equipment will be tested before the start of every lesson by the classroom teacher.

9.5. Pupils will be supervised at all times during D&T lessons. In order to maintain safe supervision, D&T classes will have a classroom teacher and Teaching Assistant present.

9.6. Copies of the school's D&T Risk Assessments are available on the t-drive.

9.7. All tools, such as glue guns, are checked by the classroom teacher before use. It is also the duty of staff to recognise and assess the hazards and risks associated when working with food and other materials.

9.8. All pupils will be taught how to use all equipment properly by the classroom teacher before use; similarly, pupils will also be fully briefed on the importance of how to correctly use equipment and tools.

9.9. Pupils are only allowed to use a lower temperature glue gun under one-to-one supervision – an adult will use the glue gun at all other times.

9.10. Glue guns will be considered alongside all viable alternatives, such as adhesive tapes, blue tack and other fasteners, to ensure the most suitable materials are used for each project.

9.11. Perishable food will be stored sensibly and refrigerated if necessary. Care will be taken by teachers and TAs to ensure food is not used after the given sell-by date.

9.12. A fire safety blanket will be kept next to the cooker at all times.

9.13. If any cooking or food preparation is taking place in the classroom, all surfaces will be cleaned before and after use.

9.14. TAs may take a maximum of four pupils to cook in the staffroom.

9.15. Parent helpers will be supervised when cooking with groups of pupils.

9.16. Teachers and TAs will oversee that all cupboards, table tops and cookers are clean and in working order.

9.17. Teacher must ensure that they refer to the up-to-date medical list before cooking lessons to ensure pupils' allergies are taken into account.

10. Teaching and learning

10.1. The school uses a variety of teaching and learning styles in D&T lessons. The main aim of these lessons is to develop pupils' knowledge, skills and understanding.

10.2. Teachers ensure pupils apply their knowledge and understanding when developing ideas, planning and making products, and then evaluating them.

10.3. The school uses a mixture of whole-class teaching, group work and individual activities. Pupils are given the opportunity to work on their own and collaborate with others, listening to their classmates' ideas and treating these with respect.

10.4. Principles for effective teaching include:

- Setting tasks in the context of pupils' prior knowledge
- Promoting active learning
- Inspiring, exciting and motivating pupils to know more

10.5. Strategies for effective teaching include:

- Ensuring the teaching methods used suit the purpose and needs of the pupils
- Providing a meaningful context and clear purpose when assigning tasks
- Investigating, disassembling and evaluating activities
- Using focussed practical tasks to help pupils make and evaluate products
- Ensuring tasks are built on skills and understanding

10.6. The classroom teacher, in collaboration with the subject leader, will ensure that the needs of all pupils are met by:

- Setting tasks which can have a variety of responses.
- Providing resources of differing complexity, according to the ability of the pupils.
- Setting tasks of varying difficulty, depending on the ability group.
- Utilising TAs to ensure that pupils are effectively supported.

11. Planning

11.1. Planning of the D&T curriculum is focused on creating opportunities for pupils to:

- Use a wide range of materials.
- Produce creative work, explore their ideas and record their experiences.
- Record their ideas and plan for larger pieces of work.
- Learn how to gather and evaluate different materials.
- Evaluate and analyse their work and that of others using the language of art, craft and design.
- Discuss ideas and planning with their peers.
- See that their work is valued, celebrated and displayed around the school.

11.2. The school creates a long-term curriculum map and medium-term/short-term plans for the delivery of the D&T curriculum – these are as follows:

- Long-term curriculum map: includes the topics studied in each term during the key stage
- Medium-term/short-term planning: includes the details of work studied each lesson for that half-term

11.3. The curriculum leader is responsible for reviewing and updating long-term curriculum plan, and communicating these to teachers.

11.4. Teachers are responsible for reviewing and updating short-term plans, building on the medium-term/short-term plans, taking into account pupils' needs and identifying the methods in which topics could be taught.

11.5. All relevant staff members are briefed on the school's planning procedures as part of their staff training.

11.6. In our school D&T is taught both as a discrete lesson and as part of cross-curricular themes when appropriate.

11.7. Teachers will use the key learning content in the DfE's statutory guidance 'Design and technology programmes of study: key stages 1 and 2', both published in 2013.

11.8. Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning.

11.9. There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.

11.10. Medium-term/short term plans will identify learning objectives, main learning activities and differentiation.

11.11. Medium-term plans can be accessed by the subject leader on request to ensure there is progression between years.

11.12. Planning will be used flexibly to reflect the objectives of the lesson and the aims of the next lesson.

11.13. All lessons will have clear learning objectives, which are shared and reviewed with pupils.

12. Assessment and reporting

12.1. Pupils will be assessed and their progression recorded in line with the school's Assessment Policy.

12.2. Pupils in EYFS will be assessed using the Development Matters Statements and are updated on a weekly basis. A judgement is made on a half-termly basis and this is updated onto Target Tracker.

12.3. An EYFS profile will be completed for each pupil in the final term of the year in which they reach age five.

12.4. The progress and development of pupils within KS1 and KS2 is assessed against the descriptors outlined in the national curriculum and this is updated on Target Tracker on a half-termly basis.

12.5. Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions

- Discussing pupils' work with them

- Marking work against the learning objectives

- Pupils' self-evaluation of their work

12.6. Teachers will also assess pupils':

- Knowledge of tools, materials and equipment.

- Ability to record and communicate their design ideas in a clear manner.

- Personal qualities and attitudes towards their work.

- Ability to explain what they have created and how.

- Ability to use tools and materials safely and effectively.

- Ability to evaluate their work and the work of others.

12.7. Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning.

12.8. Verbal reports will be provided at parent evenings during the Autumn and Spring terms.

12.9. The progress of pupils with SEND will be monitored by the SENCO.

13. Resources and equipment

13.1. The school has a selection of centrally-stored materials, tools and equipment to ensure that all pupils have access to the necessary resources.

13.2. The school's LRC contains an array of resources and topic books to support pupils' research.

13.3. The D&T budget covers the cost of materials and replacement tools. Teachers will be required to maintain the tools and equipment in their classroom.

13.4. Pupils may occasionally be asked to bring materials from home if they can; however, to provide all pupils with the same opportunities, the school will provide for pupils who are unable to do this.

13.5. Food technology resources are kept in the staffroom.

13.6. At the start of every school year, the subject leader and head teacher will assess the school's D&T tools and materials to ensure there is sufficient equipment for pupils, allowing funds to be allocated where necessary.

14. Monitoring and review

14.1. This policy will be reviewed every two years by the subject leader.

14.2. Any changes made to this policy will be communicated to all members of staff.

14.3. All members of staff directly involved with the teaching D&T are required to familiarise themselves with this policy.

14.4. This policy was written in November 2019 by E.Duffy. The next scheduled review date is November 2021

Signed: E.Duffy (On behalf of the staff)

Signed: (On behalf of the governors)