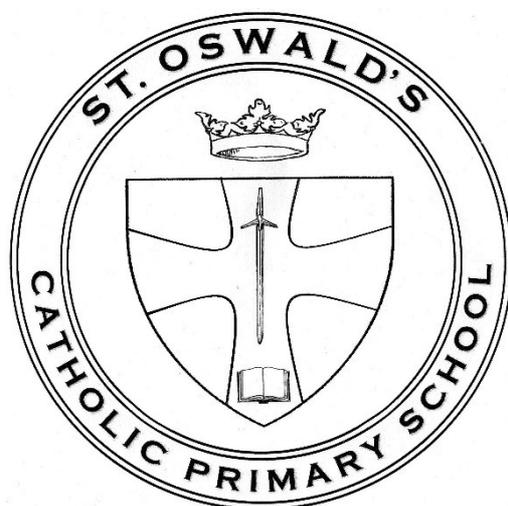


St Oswald's Catholic Primary School



Design and Technology Policy

Approved by:	Approval date	Renewal date
Standards committee		Autumn 2023

This Design and Technology Policy is set within the context of the whole school aims and mission statement:



*Together with Jesus,
We will Learn and Grow in Faith*

Design and Technology vision for the curriculum.

At St Oswald's, we encourage children to enjoy school, their learning opportunities and to strive to reach their full potential. Design and Technology is an inspiring and practical subject that is concerned with developing the children's ability to investigate, analyse, design, make and evaluate as part of a whole process. It utilises a range of materials, providing children with many new learning experiences and goals. Children are encouraged to use creativity and imagination to design and make products that solve real and relevant problems, considering their own and other's needs, wants and values.

Children will develop a wide range of skills throughout their learning of Design and Technology and they will continue to develop and expand such skills as they go through school. There are three aspects of Design and Technology; Design, Make and Evaluate that need to be incorporated through all areas of DT including; construction, textiles, food technology, computer programming and computer aided design (CAD). Our school aims to provide opportunities for children to develop skills in all areas. We recognise that children are living in a highly developed technological world therefore planned sessions of Design and Technology will provide the children with the opportunity to develop and use a range of skills that will prepare them for a constantly changing society, increasingly dependent on technology.

Design and Technology activities will enable the children to use their creativity, imagination and social interaction skills to design and make their own products, understanding the processes from planning to making, evaluating and refinement. During the teaching of design and technology, a wide range of new skills will be acquired and the knowledge of other subjects, such as Mathematics, science, engineering, ICT and art, will be drawn upon and applied. Children will also develop the life skills and knowledge associated with healthy living, food nutrition and cookery

Our work reflects the National Curriculum requirements for Design and Technology:

“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.”

EYFS

Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes. Children will be provided with opportunities to meet the DT objectives holistically through continuous provision as well as teacher led activities.

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 iterative process of researching, designing, making and evaluating. 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:

Research

- 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

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 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

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:

Research

- 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

Design

- 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
- Understand and use electrical systems in their products
- 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.
- Recognise how to stay safe and demonstrate hygiene when cooking.

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.

Aims and Objectives

- To fulfil the requirements of the EYFS and the National Curriculum.
- To stimulate, arouse and sustain pupils' interest and enjoyment of DT.
- To contribute to and expand pupils' knowledge of the world around them.
- To encourage in all children competence and confidence when: identifying, examining and solving practical problems and when using a variety of approaches, materials and methods to make quality products.
- To encourage all children to evaluate their work and that of others by considering objectively the aesthetic, economic, social and technological aspects.
- To develop each pupil's awareness of the potential and limitations of technology.
- To build on each pupil's previous learning and experiences to solve design and technology problems.
- To develop each pupil's ability to communicate effectively, verbally, visually and numerically through practical activities.
- To provide an environment in which the children can work safely and where they will be taught to use skills and tools in a safe and effective manner.

Planning

Planning within year groups is a vital part of the whole school working towards consistent and high standards and equality of provision for all classes in all year groups. The curriculum for each year will be planned to give consistency and match skill progression, within and across year groups, clearly identifying end of year milestones/age related expectations. Children are provided equal opportunities to access all aspects of DT. Throughout key stages 1 & 2 children will cover topics that incorporate; textiles, construction, food technology, computer programming and computer aided design (CAD). In the EYFS, DT objectives are planned for in line with children's interests each term to meet the relevant criteria contained within the EYFS curriculum. Opportunities to explore the relevant DT objectives are provided throughout continuous provision.

Plans are developed by teachers and are placed on the shared drive after completion in order to be adapted and evaluated. The class teacher is responsible for the implementation of the plans and the delivery of the activities. Medium term planning should include a big question, which the children need to answer both before and after the topic has been taught. Design Technology is taught during DT week, three times a year.

The Design and Technology subject lead is responsible for working with the whole staff to develop a cohesive design technology experience throughout the whole school. The DT lead will also:

- Support colleagues in their development and understanding of detailed work plans and implementation of schemes of work and in assessment.
- Take responsibility of the purchase and organisation of resources.
- Keep up to date with development in DT.
- Monitor delivery throughout the school
- Provide CPD for staff whether that be in-house training or external with companies such as MGL who deliver training and lessons in DT and Computing.

Cross-curricular links

Design Technology is taught in both key stages as an integral part of the curriculum and wherever possible will be delivered in a cross-curricular way through our themes, including computing. There can be further cross-curricular links through literacy, numeracy, science and PSHE. Focused practical tasks are planned by the class teacher to develop and practise particular skills and acquire knowledge.

DT is a useful vehicle for teaching aspects of Language, Literacy and Communication. Pupils should use and consolidate their reading skills by following instructions, seeking information, scanning and skimming text and reading captions, labels and specialist vocabulary. DT provides ample opportunities for the practical application of mathematics. Pupils are encouraged to choose and use appropriate ways of calculating measurements and distances and check the results of their calculations.

Computing is an essential aspect of Design Technology and enables pupils to develop skills, knowledge and understanding in computing. Pupils have opportunities to access a range of activities including those where they;

- Use, draw and paint programs to model ideas;
- Use database and other information sources for research;
- Develop their understanding of sequencing and control systems;
- Use the internet to find out about other times and cultures;
- Develop their awareness of how computing is used in the wider world.

STEM weeks are used to celebrate and raise the profile of Design Technology across the whole school and demonstrate how DT links to maths, science and a range of other subjects. STEM week also seeks to place DT in to a real-life context with outdoor learning, trips and external workshops used to enhance this aspect of pupils' education.

Equal Opportunities and Inclusion

Teachers ensure that children have access to the range of design and technology activities and use opportunities within design technology to challenge stereotypes. The full range of activities in DT will be made available to all children, irrespective of race, gender, or physical disabilities.

SEND

As in all other areas of the curriculum additional provision will be made for gifted/talented children or those with special educational needs. This may take the form of work

differentiated by task or outcome, additional support or where there is physical disability specific equipment. The class teacher will be responsible for identifying and planning for those needs with help from the Design and Technology Coordinator and/or SENDCO if applicable.

Assessment

All class teachers will use their assessment of the children in their class to plan for appropriate work and skill development. Teachers will be responsible for the assessment and recording of DT in line with the schools' assessment policy. Class teachers will carry out formative assessments throughout the year, monitoring and evaluating pupil's progress. Teachers assess children's work in DT by making assessments as they observe them working during lessons. Children's work will be recorded in DT sketch books and should include evidence of the full Design and Technology process of; design, make and evaluate. Children's work can be demonstrated in a variety of ways including photographic evidence, sketches, illustrations, writing, blurbs, evaluation templates and should demonstrate the expected level of achievement in each year group.

Safety

It is important that children are taught essential life skills to enable them to participate confidently and safely in designing and making in society. Teachers have a duty to introduce children to a wide variety of production processes and the correct tools for the task. Any health and safety issues identified should be clearly reflected in each year groups design technology medium term planning.

Resources

Funding for DT will be within the school budget plan for each financial year. There is a central DT budget to cover the purchase of equipment such as tools, construction kits, consumable materials, books and other resource materials. The DT lead will be responsible for ordering equipment and materials relating to school themes. It is the responsibility of each class teacher to identify additional resources needed in relation to their project.

Display

We aim to provide an environment that is stimulating and challenging and from which the children can both learn and take pleasure. Displays in the main areas of the school are allocated to demonstrate the progression of skills in Design and Technology across year groups. Classrooms and quiet rooms are individual teacher's responsibility. Displays should give explanations of the work, key subject vocabulary, be interactive and incorporate 3D work as much as possible.

The Role of the Design and Technology Coordinator

- Provide a strategic lead and direction for the subject;
- Complete regular professional development and feedback to staff;
- Have a full secure knowledge of the Curriculum Overview and Skill Progression;
- Understand the age-related expectations for each year group and key stage;
- Support and offer advice to colleagues on issues related to the subject;
- To collect samples of work and take photographs to create a visual record of work;
- Monitor overall pupil progress in that subject area;

- To identify training needs and make provision accordingly;
- Efficiently renew, update and replenish the resources needed to deliver the curriculum;
- Keeping staff informed of developments or changes in the Design and Technology curriculum.

Review and Evaluation

This policy is an active document and is monitored, reviewed and evaluated continually allowing for new legislation, initiatives and in-service feedback.

Date: October 2022