English Martyrs' Catholic Primary School

Design and Technology Policy

Our Mission

Our children are all unique, beautiful **individuals** but together we are a **masterpiece,** brothers and sisters in **Christ**.

As witnesses of Christ, working together as a **Team**, we strive to promote the **Gospel Values** and Teachings of Jesus by providing a **caring**, **stimulating environment**, with **nurture**, **trust**, **love** and **tolerance** through our spirituality, learning and play. By making connections with Jesus, we promote **high ambitions** and **confidence** to achieve our goals.

"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. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation."

National Curriculum 2014

Purpose

This policy reflects the school values and philosophy in relation to the teaching and learning of and with Design and Technology. It sets out a framework within which teaching and non-teaching staff can operate and gives guidance on planning, teaching and assessment.
The policy should be read in conjunction with the scheme of work for Design and Technology which sets out in detail what pupils in different classes and year groups will be taught and how Design and Technology can facilitate or enhance work in other curriculum areas.
This document is intended for:-

- All teaching staff
- All staff with classroom responsibilities
- School governors
- Parents
- Inspection Teams

Intent

At English Martyrs' Catholic Primary School, we strive to be a caring, sharing and friendly school by treating every stakeholder as equals regardless of creed, background or social standing. Within our curriculum, we ensure all children are prepared for life, with the skills they need to achieve, aspire and accomplish; meeting every child's potential and their needs. At English Martyrs' this includes meeting the needs of a very mixed community representing a broad range of socio-economic circumstances: a significant proportion of children with high needs and are disadvantaged; children living in high social deprivation, asylum seekers, vulnerable children and families who seek security and safety in our school family.

Our Intent is to meet these needs by...

…providing exciting opportunities for children to explore their design talents.
…provide the cultural capital needed so that children are well placed for future positive outcomes.
…providing all children with bespoke and tailored opportunities to ensure their needs in Design and Technology are met, regardless of starting point.
…developing children's skills in design and exploration from the outset.
…giving opportunities to use Design to enhance life, including the use of Digital Technologies, at all stages and phases.
…providing bespoke, exciting and engaging activities, projects and experiences for children to explore and for the development of unique design.
…providing challenge for all so that all children have the opportunity to reach their potential.
…providing opportunities to share knowledge, skill and understanding of basic with others.
…using the wider community and environment to influence designs, developing skill, knowledge and understanding.
…providing a variety of mediums to explore and use in order to enhance learning and understanding.
…providing tailored support for children at all standards in development so that they can thrive.
…providing a range of opportunities for children to experience design for purpose and in the living world.

Implementation

In order to implement the above intentions, it is necessary for us to ensure:

- A continuity of experience throughout the school both within and among year groups.
- The systematic progression through Key Stages 1 and 2.
- That the National Curriculum programmes of study and their associated strands, level descriptions and attainment target are given appropriate coverage.
- That all children have access to a range of Design and Technology resources.
- That Design and Technology experiences are focussed to enhance learning.
- That cross curricular links are exploited where appropriate.
- That children's experiences are monitored and evaluated.
- That resources are used their full extent.
- That resources and equipment are kept up to date as much as possible.
- That staff skills and knowledge are kept up to date.
- That Design and Technology skills, deliver and expertise is continuously evaluated and built upon.

At English Martyrs' these intentions will be further implemented by:

EYFS Programme of Study – Expressive Arts and Design
The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Early Learning Goals: Creating with Materials
Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

Early Learning Goals: Fine Motor Skills
Children at the expected level of development will:

- Use a range of small tools, including scissors, paint brushes and cutlery.
- Begin to show accuracy and care when drawing.

Pupils in Key Stage 1:
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, mock-ups 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.

Cooking and Nutrition

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

Pupils in Key Stage 2:

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

- understand and apply the principles of 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.

Planning

There is a programme of study for Design and Technology in place from Year 1 through to Year 6 that is taught throughout our school. All year groups have been given areas of study linked to the National Curriculum expectations. The Scheme of Work we use for Design and Technology is Kapow Primary to ensure progression in learning and skills from Year 1 to Year 6 , however class teachers have flexibility to adapt the Scheme to allow for cross-curricular planning where this would create opportunities for learning provided that the outcomes for each unit in the Scheme of Work are met.

Knowledge and Skills in the Foundation Stage are planned through the objectives within the EYFS. Teachers from Foundation Stage to Year 6 will plan to ensure full coverage of the knowledge and skills relating to the Design and Technology curriculum for that year group throughout the year. Teachers will plan before the start of each new theme, and at this point highlight the knowledge and skills that will be covered.

Early Years Foundation Stage

Expressive Arts and Design is one of four specific areas within the seven areas of learning and development in the EYFS Curriculum 2021. Staff will plan activities and experiences throughout the year which allow children to access the statutory education programmes within the Early Years Framework. Staff recognise that EYFS progress is not linear and therefore themes will be readdressed many times, in different ways whilst learning in our Early Years Unit at English Martyrs'. Teaching staff will complete observations of children against our chosen assessment tool, Birth to Five Matters. The Early Learning Goals for Expressive Arts and Design are set out in the Early Years Statutory Framework and are the aim for all children finishing their Reception year. Teaching Staff in Key Stages will be able to refer to information from the Foundation Stage Profiles/End of Year Reports and information passed on by previous teacher, to ascertain where the children are at and plan to build on these experiences accordingly. Assessment is a planned part of all effective teaching and learning.

Equal Opportunities and Inclusion

All pupils, regardless of race, class or gender, should have the opportunity to develop their Design and Technology capability.

Inclusion in Design and Technology means that all children have access to and are given confidence in all areas, regardless of race, gender and ability. We should aim to create an environment in which all children learn to respect and value each other and each other's interests. This can be achieved by employing the following strategies:

- Mixing groups in terms of gender and ability.
- Structuring activities so all are fully involved.
- Giving all the children an opportunity to share their work.
- Considering the needs of children with physical or learning difficulties and taking the necessary steps (by enlisting extra help, adapting equipment or differentiating tasks) to ensure they have equal access to the curriculum.
- Considering ways in which to support EAL children. For instance, simplifying language, using other children to translate, pre-teaching vocabulary or demonstrating rather than speaking.
- Recognising the need to extend more able pupils and refer them to the STEAM Curriculum Team so that they may then be guided to broaden their knowledge, skill and development.

Role and Responsibilities

Senior Leadership

The overall responsibility for the use of Design and Technology rests with the senior leadership of a school. The Head, in consultation with staff:

- determines the ways Design and Technology should support, enrich and extend the curriculum;
- decides the provision and allocation of resources;
- decides ways in which developments can be assessed, and records maintained;
- ensures that Design and Technology is used in a way to achieve the aims and objectives of the school;
- ensures that there is a Design and Technology policy.

Curriculum Team: STEAM

There is a designated Curriculum Team, STEAM Team, to oversee the planning and delivery of Design and Technology within the school. The Curriculum Team will be responsible for:

- raising standards in Design and Technology as a National Curriculum subject;
- facilitating the use of Design and Technology across the curriculum in collaboration with all subjects co-ordinators
- providing or organising training to keep staff skills and knowledge up to date
- staff will be encouraged to attend courses and review resources alongside the STEAM Curriculum Team.
- advising colleagues about effective teaching strategies, managing equipment and purchasing resources;
- monitoring the delivery of the Design and Technology curriculum and reporting to the head teacher on the current status of the subject.
- The STEAM Curriculum Team will have access to specific training to lead, support and develop their role.

Other Curriculum Teams work in partnership with the Steam Curriculum Team to ensure all National Curriculum statutory requirements are being met with regard to the use of Design and Technology within curriculum subjects.

The Classroom Teacher

Even though whole school co-ordination and support is essential to the development of Design and Technology capability, it remains the responsibility of each teacher to plan and teach appropriate Design and Technology activities, tailoring and implementing the Kapow Primary Design and Technology Scheme of Work and assist the subject leader in the monitoring and recording of pupil progress in Design and Technology.

Healthy and Safety

Children will work in a safe environment, both in and out of the classroom. Staff will conduct risk assessments prior to teaching and learning taking place. There will be opportunities to develop a respect for the environment, for their own health and safety and for that of others. When using equipment such as saws, hot glue guns and sewing needles, children should be supervised at all times. When conducting fieldwork, children should be properly supervised and be made aware of potential dangers such as busy roads, litter or water hazards.

Impact

The STEAM Curriculum Team will measure the Impact of the implementations of the DT (Engineering) curriculum in collaboration with class teachers and SLT through:

Record Keeping, Assessment and Reporting

As in all other areas of the curriculum, assessment is an integral part of the teaching process. Class teachers should keep records of work carried out be pupils and levels of achievement of the work. Photographs are a useful tool to keep as a reminder of pupils' achievements.

Formative and summative assessment is used to guide the progress of individual pupils in Design and Technology. It involves identifying each child's progress in each aspect of the curriculum, determining what each child has learned and what should therefore be the next step in their learning.

Assessment opportunities should be carried out prior to teaching a new unit, during the sequence of teaching and learning and post-unit to ascertain children's knowledge and any gaps in knowledge and/or skills. Examples of formative and summative assessment methods used (this list is not exhaustive):

- Questioning
- Analyse and evaluate recorded work ie. Models, photographs, written work.
- Verbal and written feedback
- Individual discussions- peer review or group work
- Observing the children's skills in Design and Technology
- Record the progress that children make by assessing the children's work against the learning objectives for the lesson.
- Quizzes
- Formal assessed work
- Knowledge tests

Kapow Knowledge Organisers for each unit should be shared and the learning discussed with children and revisited every lesson to build on the previous learning. Effective practice such as spaced retrieval will be used to ensure children develop an accurate recall of information over progressively longer periods of time. Assessment grids should be used throughout and at the end of every unit of work to assess all pupils individually. The outcomes of the assessment should be used to plan for future work to ensure there are no gaps in knowledge and skills and/or to plan interventions for individual pupils.
Children's progress in Design and Technology is reported to parents and/or carers through the pupil annual report and termly consultation meetings in the Autumn and Spring terms.

It is essential that the type of recording be matched to the type of Design and Technology activity as well as to the needs and abilities of the child. A variety of recording methods are therefore used. These include pictures, structured worksheets, sketches, diagrams, flow charts, model making, written explanations, photographs, school displays and the occasional video recording.

At the end of a unit of work, teachers make a judgement against the Key Learning Indicators of Progression (KLIPs).
Staff record progress and attainment for Design and Technology using the Lancashire Tracker.

Monitoring and review

Teaching and learning for Design and Technology is monitored by the STEAM Curriculum Team. Evidence of work is required from each year group and a sample of work is collected and filed as evidence. Planning will also be moderated to ensure that the knowledge and skills are being covered and taught in a progressive way throughout the school. The STEAM Curriculum Team will analyse the effectiveness of teaching and learning, support colleagues in the teaching of Design and Technology, inform staff of current developments in the subject and provide a strategic lead and direction for the subject in the school.

Curriculum Team responsible: STEAM Team

Policy written: November 2022

Policy agreed by Governors: November 2022

Review Date November 2023 or sooner in light of new initiatives and developments

November 2023: No changes

September 2026: Change to use of Kapow Scheme of Work