



St. Patrick's Catholic Primary School

Design and Technology Policy

Date	Review Date	Responsible Person
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1. Curriculum Statement

Intent

Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At St Patrick's, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, computing and art. The children are also given opportunities to reflect upon and evaluate: past and present products or structures that incorporate design technology; its uses and its effectiveness; and they are encouraged to become innovators and risk-takers.

Implementation

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children design and create products that consider function and purpose and which are relevant to a range of sectors (for example, the home, school, leisure, culture, enterprise, industry and the wider environment).

When designing and making, the children are taught to:

Design:

- 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.
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional 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, as well as chopping and slicing) accurately.
- select from and use a wider range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

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.
- understand some of the ways that food can be processed and the effect of different cooking practises (including baking and grilling).

Key skills and key knowledge for Design and Technology have been mapped across the school to ensure progression between year groups. The context for the children’s work in Design and Technology is also well considered and children learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study. Design and technology lessons are also taught as a block so that children’s learning is focused throughout each unit of work.

Impact

We ensure the children:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to 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 and 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.
- children will design and make a wide range of products.
- A good quality finish will be expected in all products and the making will be appropriate to the age and ability of the child.

When children are allowed to and learn how to take risks, they become 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.

2. Teaching and Learning

Design and Technology will engage the children in a broad range of designing and making activities which involve a variety of methods of communication; speaking, designing, drawing, assembling, making, writing and using computer technology. Projects are taught in blocks which allows for more effective learning in which teachers can focus on teaching and developing DT skills, allowing children to develop their ideas and techniques. Units of work have been selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each Key Stage. Units of work are planned to include designing and making assignments (DMAs) supported by focused practical tasks or skills teaching (FPTs) and work involving reviewing existing products (IDEAs). All children should have a breadth and balance of experience.

The curriculum is designed to enable progression in Design and Technology processes, including specific aspects of designing and evaluating. It also ensures that children develop their knowledge and skills systematically; choosing and using an increasing range of tools and techniques to suit a range of different purposes and developing their knowledge and understanding of mechanisms and structures to enable the incorporation of mechanical and electronic systems into their products.

Opportunities are provided by the school to provide the children with access to places of design and technological significance and learning outside the classroom within units of work. The school will seek to provide access to people with specialist design and technology skills from the local and wider community to enrich the Design and Technology curriculum.

3. Assessment

Children's knowledge and skills are assessed and developed by the teacher during lessons and through critical discussion at the end of each unit. With reference to the progression outlined in the national curriculum, teachers use the 'key learning' listed in the 'Design and Technology Medium Term Plans', alongside the progression outlined by the national curriculum, to identify the key knowledge and skills that underpin progress in each unit of work. These build progressively throughout the school, and across the programme of study, and form the basis of assessment in Design and Technology.

The knowledge, understanding and skills identified form the basis of learning objectives for each D&T session and they are used to help focus teacher's discussions with children and inform observations. Teachers use the information they gather during projects about the performance of individual children and groups to provide carefully tailored feedback, questioning, explanation and support, according to their needs.

At the end of each unit of work, the identified key knowledge in DT is also checked, reviewed and consolidated, and this process is recorded in the children's topic books. Teachers check and refer to previous related knowledge at the beginning of each new DT topic.

Displays within the classroom and in corridors will reflect a range of work across key stages, to celebrate and exhibit children's varied responses to the brief.

4. Planning and Resources

On-line DT plans and resources, produced by the Design and Technology Association, are available on the shared drive. Teachers consult these to ensure technical accuracy in their teaching and to inform the programme of study for their year group. The key skills and knowledge for each Design and Technology Topic have been mapped by each year group to ensure that these are progressive from one year to the next. Planning considers cross curricular opportunities and these are stated on the school's knowledge and skills progression mapping and embedded in practice. The context of the school, including the use of local resources and places to ensure relevance, is also considered at planning level. To support CPD and inform specific projects, the Design and Technology Association resources also include sketches and diagrams, teaching tips and techniques, suggestions on class organisation, links to resources and a glossary of technical terminology related to specific projects. It also provides an example of how children might engage in an 'iterative' designing and making process. During lessons, children's ideas are communicated and clarified through action. In contrast to a rigid design-make-evaluate process. Our process leads to action, resulting in further thought and action as children create their products.

Teachers will either select materials needed to complete a DT project from the DT Resource area, purchase any materials needed for the design, construction and evaluation of a project or decide to use recycled materials or junk modelling to help complete a project. Children are taught to use tools and equipment in a sensible, safe and efficient manner.

5. Organisation

Design and Technology planning is mapped in blocks on the Whole School Curriculum Overview. Units of work are planned to include a balance of designing and making assignments (DMAs), teaching key skills (FPTs) and work involving reviewing existing products (IDEAs). Links with other subject areas are made where appropriate.

6. EYFS

The staff team will plan for children to experience creative opportunities and develop key skills and techniques within the EYFS curriculum. There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project. The knowledge and skills acquired and developed in the EYFS will provide the foundation for those identified in subsequent years.

The key knowledge and skills in EYFS provide the foundation for learning so children are ready for learning in Year 1. Children are assessed according to the statutory framework and EYFS check points. Our intent is for children to be ready to learn in Year 1 but providing a progressively planned curriculum from Nursery to Reception to Year 1.

Nursery and Reception classes will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design and Technology.

7. KS1 and KS2

Teachers will plan for lessons so that children will learn to design purposeful, functional, appealing products for themselves and others based on design criteria and to communicate their ideas through talking and drawing. They learn to select from and use a range of tools and equipment to perform practical tasks and to choose from a wide range of materials and components. Each aspect of the school's Design and Technology programme of study, will link explicitly to the five National Curriculum strands. The provision will support each child's achievement of the 'end-points', as stated on the school's Design and Technology Knowledge and Skills Progression Mapping documents, which are directly informed by the National Curriculum 2014.

8. Equal Opportunities

Whole school policy on equal opportunities will be adhered to in Design and Technology activities. Teachers ensure that children have access to the range of Design and Technology activities and use opportunities within Design and Technology to challenge stereotypes. Children are encouraged and supported to develop their Design and Technology capability using a range of materials. Children with special needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum.

9. Inclusion

All children will be supported through differentiation, adaptation or adult support, to enable equal access to learning in Design and Technology.

10. Role of the Subject Leader

The subject leader, in conjunction with SLT, will monitor the teaching and learning of Design and Technology across the school; ensuring a high quality, broad and stimulating curriculum. They will also support and facilitate opportunities that support the continued professional development of teachers in the teaching and learning of Design and Technology. A range of good-quality materials and tools, which enable teachers to resource and teach the subject effectively, will be maintained by the subject leader.

The subject leader will directly support the school's commitment to:

- provide access to places of design and technological significance and learning outside the classroom,
- provide access to people with specialist design and technology skills from the local and wider community

11. Parents

We encourage all parents and carers to support and assist with whole school events and Design and Technology projects. Parents and carers from the field of design and technology are warmly encouraged to approach the school to support opportunities for enrichment and the school will actively seek to engage and collaborate with parents and carers with specialist skills for this purpose.

This policy will be reviewed annually by the Governing body

Policy Agreed: September 2021

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