Star of the Sea Catholic Primary School

Design and Technology Policy

2024 – 2025

Coordinator: Mrs Connon

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At Star of the Sea Primary School we want all pupils to think like product designers. We want them to become curious, lifelong learners and to understand how items are designed, manufactured and made to appeal to a wide audience. We want them to know we are creating products that are well thought out, useful and fit for purpose, and to consider a range of factors such as cost, environmental impact and aesthetics.
Covering themes such as textiles, mechanisms, structures, electrical systems, the digital world and food and nutrition, we engage the children in creative projects with a clear purpose and which provide clear progression in the substantive and disciplinary knowledge taught as children move through the curriculum. The teaching sequence that each year group follows enables children to acquire new skills and knowledge whilst drawing upon previous learning to ensure progression and retention of skills and knowledge.

At Star of the Sea school, we have agreed Drivers for our curriculum, which impact all our subjects:

Spiritual - *living out the Gospel Values*
Togetherness - *as a Rights Respecting school*
Ambitious and Aspirational -*to reach our full potential*
Resilient - *we never give up*
Self-belief - *striving to succeed with a Growth Mindset*

Intent

At Star of the Sea Primary School, we teach Design and Technology once a term following a clear and comprehensive scheme of work in line with the National Curriculum.
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. Our DT curriculum aims to ensure that there is clear progression in key skills from Early Years though to KS2. Pupils also draw on knowledge from other curriculum subjects such as mathematics, science, art and computing and are also given the opportunity to pursue STEM projects when appropriate.
A high quality Design and Technology education will help pupils gain a coherent knowledge and understanding of how products are designed and manufactured and the processes involved in creating a useful product that is fit for purpose and appealing to a given audience. Children learn that real designers go through the design process, building on their skills and adapting ideas until they have the best solution to a problem. This practical understanding of the design process fosters resilience and perseverance and promotes creative problem solving skills which are invaluable.
Design and Technology should inspire pupils' curiosity and help them to consider what future careers in Design and Technology could be. We aim to foster an interest in functional design that could lead to further study and future careers in the creative, engineering and manufacturing sectors. An interest in DT can lead to many exciting career opportunities.

Implementation

Design and Technology engages 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.

Our Design and Technology lessons involve the delivery of design and technology projects with a clear structure. Children undertake design tasks and use skills from across the curriculum to fully explore the design process and evaluate work ensuring that it is of the highest possible quality. Children are taught a range of skills to ensure that they are aware of health and safety issues related to the tasks undertaken.

In design technology children may well be asked to solve problems and develop their learning independently. This allows the children to have ownership over their curriculum and lead their own learning in Design Technology. Alternatively, children may well be asked to work as part of a team learning to support and help one another towards a challenging, yet rewarding goal.

Design and Technology is generally taught in rotation half termly with art. One Design and Technology project is taught per term in each year group from Early Years through to KS2. Teaching in blocks 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. All children should have a breadth and balance of experience.

In Early Years, Key Stage 1 and Key Stage 2, the children will study the five strands as set out by the National Curriculum

- Design
- Make
- Evaluate
- Technical knowledge
- Cooking and Nutrition

Early Years

Staff will plan for children to experience creative opportunities and develop key skills and techniques within the EYFS curriculum drawing from three key areas of of learning:

Physical Development

Understanding of the World

Expressive Arts and Design

There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project. Nursery and Reception classes will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design and Technology.

Key Stage 1 and 2

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. They also learn to explore and evaluate their design and product.

We teach Design and Technology using a 'topic brief' at the start of a unit describing the type of product children will need to design. They are introduced to the client or the audience and then carry out a task analysis using ACCESSFM to help them plan, make the product and self and peer evaluate their work to assess what went well or not so well.

Each project addresses the six design and technology principles:

User – children should have a clear idea of who they are designing and making products for, considering their needs, wants, interests or preferences. The user could be themselves, an imaginary character, another person, client, consumer or a specific target audience.
Purpose – children should know what the products they design and make are for. Each product should perform a clearly defined task that can be evaluated in use.
Functionality – children should design and make products that function in some way to be successful. Products often combine aesthetic qualities with functional characteristics. In D&T, it is insufficient for children to design and make products which are purely aesthetic.
Design Decisions – when designing and making, children need opportunities to make informed decisions such as selecting materials, components and techniques and deciding what form the products will take, how they will work, what task they will perform and who they are for.
Innovation – when designing and making, children need some scope to be original with their thinking. Projects that encourage innovation lead to a range of design ideas and products being developed, characterised by engaging, open-ended starting points for children's learning.
Authenticity – children should design and make products that are believable, real and meaningful to themselves i.e. not replicas or reproductions or models which do not provide opportunities for children to make design decisions with clear users and purposes in mind.

Additional Educational Needs and 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.

Learning Links

Our Design and Technology work throughout the school will explore how Science, Technology, Engineering and Maths (STEM) has shaped the world for our lives today. This is enhanced by the use of Technical Lego kits where the children learn to program objects they have built to either move or to light up using computer aided software. This will be further encouraged and developed in the future via Lego League Competitions and STEM competitions.

Local Links

Our Design and Technology curriculum draws upon local resources such as linked schools in a Coastal Collaborative team where staff come together to share ideas, receive up-to-date training and to share best practice in order to deliver an exciting, innovative and practical Design and Technology curriculum.

Monitoring and Assessment

At Star of the Sea School we will assess pupils continuously on an informal basis. After a unit of work is completed we will decide whether children are working towards/working at/working above the expectation for the year group. This will then guide us in planning the pupil's future learning. Displays within the classroom and hall areas will reflect a range of work across key stages, to celebrate and exhibit the work of children, of all abilities.
Design and Technology through the school is monitored by the subject co-ordinator. Units of work are monitored and reviewed at the end of every term and pupils are interviewed which is then reported back to the senior leadership team.

Impact

Within Design and Technology, we strive to create a supportive, collaborative and inclusive ethos for learning by providing investigative and enquiry based learning as well as practical opportunities linking our projects to the wider world. Our Design and Technology curriculum focuses on progression of knowledge and skills and discreet vocabulary progression also forms part of the units of work. Children will deepen their understanding of the world around them and the events that have shaped their world.
We measure the impact of our curriculum through the following methods:

- Assessing children's understanding of topic linked vocabulary.
- To embed the skills needed to engage in an iterative process of designing and making.
- To encourage children to use their creativity and imagination.
- To develop problem solving skills both as individuals and members of a team.
- To enable children to reflect upon and evaluate past and present design technology.
- To encourage children to become innovators and risk takers.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- Summative assessment of pupil discussions about their learning.
- Images and videos of the children's practical learning.
- Interviewing the pupils about their learning (pupil voice).
- Assessment of children's work by measuring design criteria against final products.
- Termly reporting of standards across the curriculum.