


Saint Marys Catholic Primary School



WE GROW WITH JESUS TO BE THE BEST WE CAN BE

Design and Technology Policy

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| <u>Design and Technology Policy</u> | | | |

Intention Statement:

At St Mary's, we aim to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. We aim to build pupils' awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens, preparing them for living in a modern world with rapidly changing and advancing technology. Through the study of design and technology, children will combine practical skills with an understanding of the aesthetic, social and environmental issues, as well as functions and industrial practices. Through Design and Technology, we will equip them with the knowledge and skills to think creatively and problem solve to become designers and technologists of the future.

Implementation Statement:

Design and Technology is taught in blocks throughout the year, so that children achieve depth in their learning. Objectives are from the National Curriculum and are taught through the Lancashire Scheme of work. We emphasise subject specific vocabulary because at St Mary's we have many children with English as their second language.

Teachers have identified the key knowledge, vocabulary and skills of each topic and consideration has been given to ensure progression across topics throughout each year group across the school. Cross curricular outcomes in Design and technology are planned for, with links between the Design and technology curriculum and other subjects such as Mathematics enabling further contextual learning. The local area is also fully utilised to

achieve the desired outcomes, for example visit to Queen's park to see how playground equipment is designed.

Assessment is tracked on the school assessment system of Arbor at the end of the Advent and Pentecost terms. Consideration is given to how greater depth will be taught, learnt, and demonstrated within each lesson, as well as how learners will be supported in line with the school's policy on inclusion. Outcomes of work will be monitored to ensure that they reflect a sound understanding of the key identified knowledge.

Impact

Outcomes in Design and technology books and from pupil voice evidence a broad and sequenced design and technology curriculum and demonstrate the children's acquisition of identified key knowledge relating to each of the identified national curriculum strands, as appropriate to key stage. This is in addition to the development and application of key skills, supported by visits and exploration. Pupils at St Mary's enjoy design and technology.

As children progress throughout the school, they develop a deep knowledge, understanding an appreciation of their local area and its place within the wider geographical context.

Through explicit teaching of Geographical vocabulary related to each topic and sequenced/ spiral learning, children are enabled to remember and do more. Utilising the local resources, with the school being ideally located to the town centre of Loughborough and a variety to trips, to enhance learning.

Introduction

Design and Technology is a foundation subject in the National Curriculum. This policy outlines the purpose, nature and management of the design and technology taught in our school.

Design and Technology encourages children to think creatively, and problem solve. Through the study of design and technology pupils learn to work collaboratively as a team to design and make products in a variety of contexts. Children also learn to take risks and to reflect on and evaluate their work. Through this subject, children can explore past and present design and technology and develop a critical understanding of its impact on their daily life and the wider world. At our school we strive to deliver a curriculum that will guide and support our children into becoming resourceful, innovative and capable learners.

We believe that all children should have the opportunity to learn and explore ideas through Design and Technology regardless of ability, race, religion, language or gender.

Aims

The curriculum for Design and Technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasing technological world.
- build and apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products for a wide range of users.
- 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.

Teaching Objectives

Practical experiences are central to this subject. Children need to explore and develop their own ideas. They need to be given time to evaluate their work and the work of others. A positive attitude should be developed towards overcoming problems. Children should be given the opportunity to work collaboratively and independently on projects. Design and Technology as a subject should aim to show children that we do not always work towards pre-ordained solutions.

EYFS

Physical Development

- Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
- Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Expressive Arts and Design

- Explore, use and refine a variety of artistic effects to express their ideas and feelings.
- Return to and build on their previous learning, refining ideas and developing their ability to represent them.
- Create collaboratively, sharing ideas, resources and skills.

ELG: PD: Fine motor skills: Children at the expected level of development will:

- Use a range of small tools, including scissors, paintbrushes and cutlery.

ELG: EAD: 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.

Key Stage 1

Pupils should be taught:

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 and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing)
- select 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.

Key Stage 2

Pupils should be taught:

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 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.

Principles of Teaching and Learning

Design and Technology is a foundation subject in the National Curriculum. In our school D&T is taught from EYFS through to Year 6 as a discrete subject or continuous provision in Y6. Teachers plan each unit of work using the Lancashire Planning. Lessons are each day as a blocked curriculum in the afternoon over two weeks to sequence the lessons and aid remembering. There will be 3 blocks across the year. Design and Technology is taught as part of a topics with planning being completed through a cross curricular approach ensuring the DT has a link to the topic being studied.

Teachers from Foundation stage to Year 6 and the subject lead will plan to ensure the full coverage of the skills relating to the Design and Technology curriculum for each year group throughout the year. Teachers will follow the progression plan and medium term plans as to which key skills will be covered in the unit. They will then develop and plan lessons connected to each skill. The teaching method will vary according to age and children will be given the opportunity to work individually, in groups and as a whole class.

Skills in the Foundation Stage are planned though the objectives within the EYFS. The EYFS teacher will plan opportunities where children can learn through talk and play. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control.

The Design and Technology subject leader will monitor the experiences and work undertaken by children throughout the school to ensure the curriculum is balanced and there is progression throughout the school.

Assessment

Teachers assess work in design and technology by making observations of the children working during lessons. They record progress made against the learning objectives for that lesson. Due to the practical nature of design and technology, evidence of work undertaken by children can be in the form of teacher's notes or as a photographic record. Samples of the design process and end product are also valuable evidence, the process shown in the pupil's design and technology books.

At St Mary's teacher's use Arbor to assess the Design & Technology skills for each year group. Teachers baseline the children at the end of the Autumn Term and then reassess at the end of the Summer Term to show the progress made by children.

Teachers monitor children's work during lessons and use their observations, projects produced by the children and written evidence to assess children's development of skills. There is use of a book to show the Design, model, make and evaluate process. Teachers are encouraged to keep an end of unit piece of work for each planned unit of D&T and to use that to help them assess the skills taught.

Any pupils who are identified as not making expected progress during will receive additional support during lessons. Additionally, if pupils are working below their age group Teachers will put structured support in place in order to help them make progress.

Teachers maintain a portfolio of D&T work in their DT/ art books. Teachers should refer to these when assessing the children's D&T skills in each year group on Arbor.

Children's progress is made available to parents on each child's annual report at the end of each academic year.

Monitoring and Review

Monitoring of D&T is carried out termly by the Design and Technology Co-ordinator. Best practice for D&T is identified and shared amongst practitioners. Samples of planning and work will be collected. The subject leader will also monitor attitudes throughout the year using pupil questionnaires.

Organisation of Resources

Our school has a wide range of resources to support the teaching and learning of this subject across the school. Classrooms have a range of basic resources, with the more specialised equipment being ordered by the subject leader upon request.

Cooking and food technology equipment is stored in the school teaching kitchen located in the KS2 area. Computing resources are also available in the KS2 area in a computing trolley and a class set of laptops. There are also a set of tablets located in the Learning Lounge which can be used to support learning.

Special Educational Needs

All children at Saint Mary's Catholic Primary School will have the same chance to participate in Design and Technology. In all classes there are children of different ability. We aim to provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs, making adaptations in the lesson.

It is the responsibility of each class teacher to ensure the individual needs of each child are met through appropriate differentiation and support.

Health and Safety

Children should always be working in a safe environment, both in and out of school. Children should be taught how to use tools correctly and safely. Children are taught how to follow proper procedures for food safety and hygiene when working outdoors or off premises. Children should be properly supervised and made aware of any potential danger or hazards. Where pupils are to participate in activities off site, we carry out a full risk assessment prior to the trip to ensure that the activity is safe and appropriate for all pupils. There are also individual risk assessments for using items of equipment such as scissors and hacksaws.

Parental Involvement

As with all areas of children's learning, the support of parents and carers helps to enrich a child's learning experience. This includes helping their child with any Design and Technology research or homework which may be set. Parents are shown design and technology books, and this is reported on in the end of year reports to parents.

Design and Technology Co-ordinator: Mary Hunt