Lewknor C of E Primary School
Design and Technology Policy
November 2020 - November 2023

Intent

Design and technology at Lewknor equips children with a DT education that is relevant in our rapidly changing world. Our DT curriculum is based on our progression of knowledge and skills document, which in turn is based on the national curriculum programme of study.

Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of design and technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practice. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts.

Design and technology helps all children to become discriminating and informed consumers and potential innovators.

The aims of design and technology are:
The national 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 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
- 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.
- to develop an understanding of technological processes, products and their manufacture, and their contribution to our society;
- to foster enjoyment, satisfaction and purpose in designing and making.

Implementation

The principal aim is to develop children's knowledge, skills and understanding in design and technology. Teachers plan lessons for their class using our progression of knowledge and skills document, adapting it to their class's interests and wider curriculum stimuli. Teaching ensures that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. This is done through a mixture of whole-class teaching and individual/group activities. Within lessons, all children are given the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect.

Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources.

In all classes there are children of differing ability. We recognize this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies:

- setting common tasks that are open-ended and can have a variety of results;
- setting tasks of increasing difficulty where not all children complete all tasks;
- grouping children by ability and setting different tasks for each group;
- providing a range of challenges through the provision of different resources;
- using additional adults to support the work of individual children or small groups.

Design and technology curriculum planning
DT is taught in periods of blocked time allowing for the development of skills and understanding in depth.

Whilst DT will at times be related to topic work or other cross-curricular links, teachers also plan specific activities to provide adequate development of the skills, knowledge and understanding associated with the subject. Planned activities will take account of pupils' previous experience in DT.

Teaching design and technology to children with special needs
We teach design and technology to all children, whatever their ability. Design and technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers provide learning opportunities that are matched to the needs of children with learning difficulties.

In Early Years
There is continuous provision of art and design opportunities: these activities make important contributions to children's development in the areas of Expressive Arts and Design and Communication and Language. They are also important in children's Personal, Social and Emotional development. DT is covered in practical lessons, continuous provision and as a means of communication and learning in other curriculum areas.

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 designing and making. 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:
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.

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:

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

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.

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.

Impact

Assessment and recording
The class teacher assesses children's work in design and technology by making assessments as pupils are observed working during lessons. Progress is recorded by assessing children's work against our progression of knowledge and skills document, and the learning objectives for their lessons.

Resources
Our school has a range of resources to support the teaching of design and technology across the school. The design and technology subject manager and teachers maintain all basic and specialist equipment in this area so that everyone can use the equipment safely.

Health and safety
The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene and using tools.

Roles and responsibilities of the subject leader
- to support and guide the practice of teachers and support staff;
- to ensure coverage, continuity and progression in planning;
- to monitor and evaluate the effectiveness of DT teaching and learning;
- to update documentation where necessary;
- to produce action plans for the School Development Plan, prepare bids and manage the DT budget effectively;
- to liaise and consult with outside agencies where appropriate;
- to prepare and lead INSET;
- to attend relevant INSET training;
- to review regularly the contribution made by DT to a meaningful curriculum.