Lewknor Church of England Primary School
DESIGN AND TECHNOLOGY POLICY
December 2023 – Review December 2026

Christian Vision

Building Strong Foundations for a happy and successful life.

Like the wise man who built his house on rock (Matthew 7: 24-27), we seek God's wisdom to enable us to nurture our school community so that all can flourish and achieve their best in every aspect of school life.

Overview

"Tell me and I forget – Show me and I may remember – Let me do it and I learn." Confucius

Design and technology is an intricate part of our day-to-day lives and it is therefore important that our children are taught how this subject is of great importance in our rapidly changing world. Children are encouraged to think creatively in order to solve problems and/or make improvements to existing ideas and products. It is through these methods that they can make positive changes to their own and others' lives.

At Lewknor Primary we believe that the teaching of design and technology enables children to identify needs and opportunities, and to respond by developing ideas and eventually making products and systems. Through the study of design and technology children combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on, and evaluate, present and past design and technology, its uses and impacts.

Design and technology involves applying knowledge and skills when designing and making products. The activities undertaken will enable our children to consider the needs of individuals and society within a caring community. Undertaking design and technology activities in school will give our children opportunities to use a range of materials and processes; to explore, evaluate and amend ideas; and to build on their skills for both independent learning and team work. We would hope that the activities undertaken during their time at Lewknor Church of England Primary School will also reflect the children's local environment and support them in the wider world.

We follow the national curriculum for design and technology, supplemented by resources from PlanBee. Every year teaches textiles, nutrition and cooking, structures and mechanics with the higher years following onto electricity. We have designed our curriculum to have cross curricular links, to ensure access to a greater depth understanding of the various topics. Our curriculum follows a clear progression from Year 1 to Year 6, from threading a needle and identifying healthy foods, to creating usable bags and developing intricate designs.

"If we teach today as we taught yesterday, we rob our children of tomorrow." John Dewey

Design and technology is ever growing in our current world, with new creations, thoughts and innovations appearing every year. Our curriculum prepares children to take part in the development of tomorrow's rapidly changing world. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts.

Aims

- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- To enable children to talk about how things work and to draw, model and write about their ideas.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To encourage children to use the correct vocabulary and terminology when designing, making and evaluating their products.
- To explore attitudes towards the 'made' world and how we live and work within it.
- To understand the importance of design and technology in the wider world.
- To develop an understanding of technological processes, products and their manufacture, as well as their contribution to our society.
- To foster enjoyment, satisfaction and purpose in designing and making.
- To give children the opportunity to take part in creative and practical activities.
- To encourage children to be analytical and critical when they are considering and analysing products.
- To follow safe procedures when using equipment.
- To extend and enrich other curriculum areas.
- To understand and apply the principles of a healthy, varied diet.

"The best teachers are those who show you where to look, but don't tell you what to see." Alexandra K. Trenfor

Teaching and Learning

Early Years

Children in the Early Years Foundation Stage will undertake investigative and skills-based tasks during independent, child-led activity time. They will be provided with resources based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently.

Children in EYFS will work on a range of creative themes and tasks, and their work in Expressive Arts and Design links closely to other areas of the EYFS profile, namely 'Moving and Handling' through the opportunity to develop skills in using various tools, and 'Shape, Space and Measure' through access and exploration of a range of construction materials.

DT in Early Years Foundation stage comes under the following areas of learning:

- Physical Development - in the handling and use of equipment
- Communication and Language – discussing what they are doing, what they like etc
- Expressive Art & Design
- Understanding the World

"It is not about technology; it's about sharing knowledge and information, communicating efficiently, building learning communities and creating a culture of professionalism in schools. These are the key responsibilities of all educational leaders." Marion Ginopolis

Ongoing observations are made in these areas to record and assess the development of particular skills.

Key Stage 1

During Key Stage 1 (Infants), pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making, through a variety of creative and practical activities. 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

In Key Stage 2 (Lower and Upper Juniors), our pupils are taught the knowledge, understanding and skills needed to engage in the process of designing and making, through a variety of creative and practical activities. They 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.

EYFS

There are many opportunities for the children to prepare healthy snacks, selecting different ingredients. They are encouraged to consider taste, texture and colour. Under supervision, they are taught to use appropriate tools.

Key stage 1

- Use the basic principles of a healthy and varied diet to prepare food.
- Understand where food comes from.
- Use appropriate kitchen tools correctly and safely, under close supervision.

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.
- Use appropriate kitchen tools with increasing independence and accuracy.

Curriculum Organisation

Design and technology is taught in KS1 and KS2 as an integral part of the creative curriculum. Focused practical tasks are planned by the class teacher to develop and practise particular skills and aquire knowledge.

Meaningful assignments set within purposeful contexts are used by class teachers. Where appropriate they are also linked to other subjects to encourage children to appreciate the importance of different skills in conjunction.

The school follows the statutory programme of study from the national curriculum. A subject overview and rationale has been developed by the subject lead and shared with all the staff, which can be found on our website. This details the progression of specific DT skills alongside units of work that deliver these and the targeted thinking that underpins these skills within each particular year group.

Pupils may be taught as a whole class, work in a group or individually. The groups may be of matched or mixed abilities. Children with special needs will be supported within the classroom.

Design and technology also involves understanding and implementing safety in using tools and materials, a key life skill.

It is important that children's success in DT is acknowledged and celebrated. This can be done through displays in classrooms and in communal areas, during Friday Celebration assembly or via the school's website and Facebook page.

Cross-Curricular Links

DT has many links to other areas of the curriculum including:

- English – planning and evaluating a group product, reporting on work carried out and writing instructions for the steps they took.
- Maths – measuring and weighing accurately.
- ICT – using as a tool for product advertising, research, data handling, and to develop word processing skills.
- Science - healthy eating, electricity and properties of materials.
- PSHE – healthy me
- Geography – the seaside
- Art and Design – planning how to use materials to make a final product and finishing techniques.
- History - learning about the history of products and materials.
- Learning for Life - working collaboratively, evaluation both self and of others, respectfulness of others' opinions and designs, resilience, designing and making for a purpose thinking about who the product is aimed at.

Presentation and Recording of Work

In design technology children's work can take various forms. It can be exploring and developing ideas and producing a piece of work e.g. a model or a design. Children can record their work individually, as a group or class. The digital camera and video camera can be used to record the process or the finished work. Created work can be displayed in classrooms and around school to celebrate children's work.

Assessment

Teachers will assess the children's work in art and design technology while observing them working during lessons. They will record the progress made by children against the learning objectives for their lessons. Teachers assess what each child has achieved and then use this information to plan future work. This method of recording also enables the teacher to make an annual assessment of progress for each child, as part of the child's annual report to parents. We pass this information on to the next teacher at the end of each year. Children are encouraged to assess and evaluate both their own work and that of other pupils. This helps them to appreciate how they can improve their performance, and what their targets should be for the future.

Health and Safety

Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.

Children need to be taught how to

- Use tools and equipment correctly.
- Recognise hazards and risk control.
- Be strictly supervised in their use of equipment at all times.
- Be taught to respect the equipment they are using and to keep it stored safely while not in use.

- Be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Food Hygiene

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food.
- Pupils and staff working with food must wear aprons designated for cooking.
- Painting equipment must not be washed up or used in the sink in the kitchen areas before lunch time.
- All jewellery should be removed and hair tied back

Sawing

- Bench hooks and clamps must be used when sawing any material.
- Safety goggles must be worn and any loose items of clothing/hair must be tucked in.

Risk assessments are carried out by the class teacher for activities where a risk assessment is deemed appropriate. All school visits are carefully planned with safety in mind and consideration of the age and ability of the children. Field trips are well supervised. Staff should refer to the Educational Visits Guidelines. All trips require a risk assessment.

Equal opportunities and inclusion of all children

At Lewknor we believe that it is important for all children to experience the range of design and technology activities. We will use opportunities within design and technology to challenge stereotypes. All children will be encouraged and supported to develop design and technological capability through a range of materials. We recognise the importance of identifying the specific difficulties that individual children might experience, and targets will be set within their IEP to reflect appropriate teaching and organisational strategies to meet their needs.

We expect all children to participate in design and technology projects. Specialist equipment and support will be sought and provided for any children who need them in order that they will be included within and have access to tasks in design and technology. The subject lead will liaise closely with the SENCO (Special Needs Coordinator) and to ensure that all our children have differentiated access to design and technology, including provision of special resources or equipment where necessary and possible.

Role of the Subject Leader

The role of a subject leader is to provide professional leadership and management for a subject to secure high quality teaching, effective use of resources and improved standards of learning and achievement for all pupils.

They should:

- Take a lead in policy development.
- Monitor the effectiveness of the teaching of DT.
- Support colleagues, including induction of teachers new to the school.
- Make resources available for a range of purposes.
- Liaise with other teaching staff regarding opportunities for children to participate in activities outside school.