



Overton St Helen's CE Primary School

Surrounded by God, we inspire hearts and minds through learning, faith and love.

'Let your light shine before others, that they may see your good deeds and glorify your Father in heaven' (Matthew 5: 16)

DESIGN AND TECHNOLOGY POLICY

School Vision

We encourage children to be respectful, forgiving and compassionate. We are a nurturing, inclusive and safe community built on Christians Values that inspire positive trusting relationships between school, families and the wider world.

We aim high, engaging children in a dynamic and diverse curriculum with opportunities and experiences that allow them to excel, through discovering their unique talents, relishing challenges with courage and perseverance, knowing that God is with them.

INTENT

The National Curriculum defines a high quality DT curriculum as:

“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. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming 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” (*National Curriculum Document 2014*)

Rationale

At Overton St Helen's Church of England Primary school, we aim to provide all children with a broad and balanced curriculum which prepares them for life beyond primary education. In Design and Technology lessons, 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.

During Design and Technology, we teach children the language skills they will need to be effective communicators. We actively encourage our children to be critical thinkers, forward planners and effective problem solvers. We also teach our children to be able to work as capable individuals and as part of a valuable, productive team.

Resilience is a key theme running through our DT curriculum, and the children are encouraged to become innovators and risk takers. Children will use their creativity, imagination and social interaction skills and will draw on learning within Maths, English, Science, Art and Computing, to develop life skills and knowledge about healthy eating.

Wherever possible, teachers will make links to our local environment as part of our school's Morecambe Bay Curriculum.

The Morecambe Bay Curriculum Lens

The Morecambe Bay Curriculum is a co-produced approach to learning that focusses on ambitious and highly relevant themes of social and environmental sustainability and positive change. It is supported by Eden Learning and is complementary to the future installation of Eden Project North in the town of Morecambe.

Being a school located in the area of Morecambe Bay, we seek to incorporate Morecambe Bay Curriculum principles into our own approach to the National Curriculum. We nurture a deeper, richer understanding of our unique location and develop skills and knowledge that children need to become advocates and active contributors to the local community, by creating opportunities for place-based learning projects that respond to real-life challenges or issues.

Learning in Design and Technology will include projects that are inquiry based, experiential, situated and outdoors, immersive and that also follow relevant lines of curiosity.

Aims and Objectives

At Overton St Helen's we provide high quality teaching and learning in Design and Technology, offering children the opportunity to:

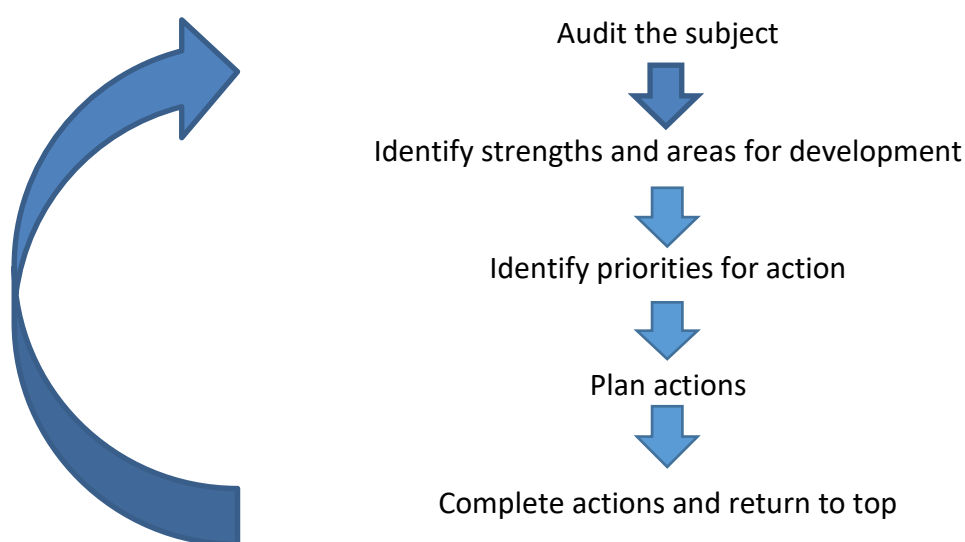
- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Enable children to talk about how things work, and to draw and model their ideas.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Research and explore past and current uses of design and technology, and use this knowledge in their own designing.
- Apply their skills, knowledge and understanding to solve problems, considering local, nation and global issues.
- Develop an understanding of health and nutrition, including how to cook nutritious and affordable meals.
- Develop an attitude that is conscious of what a healthy lifestyle is and how food contributes towards this.

- Develop skills in the use of materials and tools appropriate for their age and competency.
- Encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- Foster creativity and innovation.
- Critique, evaluate and test their ideas and products and the work of others.
- Develop the cross-curricular use of design and technology in other subjects.

Role of Subject Leader

The Design and Technology Subject Leader is responsible for:

- Ensuring progression and continuity through and across the Key Stages.
- Motivating and supporting colleagues in the implementation of their planning and providing guidance on where to find suitable resources for each unit of work – online and concrete as well as resources that support a more in-depth approach to Design and Technology.
- Monitoring progress and standards within Design and Technology, identifying strengths, weaknesses and priorities for development.
- Keeping up to date with the developments in Design and Technology and cascading this information to colleagues
- Liaising with the delegated governor and reporting to the Curriculum Lead and Head teacher, through audits, action planning, subject discussions and staff meetings.



IMPLEMENTATION

Approaches to learning

All children will be taught the skills and principles of Design and Technology as outlined in the programmes of study in the National Curriculum for Design and Technology.

The key skills we teach children are:

- Mechanisms
- Structures
- Cooking and Nutrition
- Textiles
- Electrical Systems (KS2 only)

In Reception the children follow guidelines for physical development and expressive art and design, as set out in the Early Learning Goals. In Key Stages 1 and 2, each of the above key skills is visited at least once in each Key Stage. (With the exception of Electrical Systems, this is only required to be taught in Key Stage 2 and is cross-curricular with Science.)

Every class carries out three Design and Technology projects per year, one of which must be a food based project. In Key Stage 2, children are given the opportunity to look at key events and individuals in Design and Technology that have helped shape the world, and where possible, class teachers will try to link their topics to the local area.

EYFS

In Reception, Design and Technology is a continuous process throughout the year and the children will be provided with many opportunities to develop their Design and technology skills. These early opportunities will 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. Children are given the opportunities to create finished pieces of work which they are able to evaluate and improve.

This wide range of Design and Technology experiences the children encounter in Reception provides a good basis for future learning in Design and Technology in Key Stages 1 and 2.

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 (Research, Design, Make, Evaluate) of designing and making. When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on a given design criteria.
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, 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 (Research, Design, Make, Evaluate) of designing and making. 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 and 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 (CAD).

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

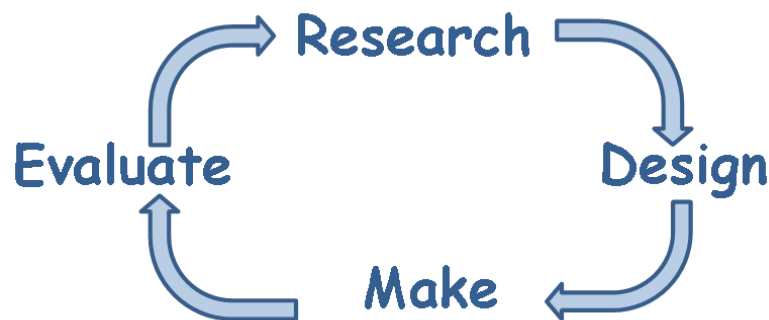
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and healthily, now and in later life. Pupils should be taught to:

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.



Design Technology lessons will always follow a similar structure across school:

1. Researching and looking at focus designers/focus inspiration and existing products.
2. Technical practice of design and construction skills linked to focus designer and existing products.
3. Design of ideas for the final product.
4. Final product building.
5. Self/peer evaluation of the final piece

Planning

Long term planning- At Overton St. Helen's, we have developed a clear program of study which takes into account the uniqueness of our KS2 children and their journey through the school. In EYFS and Key Stage one we have an annual overview. Due to the mixed age classes within Key Stage 2, we run a two year rolling programme. This ensures we meet the requirements of the National Curriculum. The rolling programme is attached within the appendix. This is undertaken by the Design and technology Subject Leader and is monitored regularly and evaluated annually.

Medium term planning- This takes the long term plan and organises the teaching of Design and Technology into termly or half-termly sections. The planning is more detailed and the objectives are more specific in nature. This planning is developed by the class teachers, who respond to the needs of their pupils. It also ensures a balanced distribution of work across each term.

Resources

All physical resources will be kept in a central location (in Sycamore). Should materials be needed to support a new topic area, requests can be made via the subject leader. Chromebooks will be used for programming projects and for any Computer Aided Design needs.

Equal Opportunities

At Overton St Helen's, we are committed to providing a teaching and learning environment that allows all children to thrive and reach their potential. All teachers provide suitable learning opportunities for children, recognising that many children have individual needs and ensuring these needs are catered for in Design and Technology lessons. This includes providing adult support and appropriate equipment and materials to enable all children to access the Design and Technology curriculum. Teachers are aware of children who have a particular talent for Design and technology and aim to provide additional challenges for these children where appropriate.

Health and Safety

In this subject, the general teaching requirement for health and safety applies. We teach children how to follow proper procedures for handling tools, food safety and hygiene. Children will be supervised when using tools and equipment, and teachers will risk assess activities based on the cohort. It is the responsibility of each class teacher to collect resources and then return them after use. If any resources become broken during use, the Design and Technology subject leader needs to be informed as soon as possible.

IMPACT

Success Criteria

The Design Technology curriculum will be creative and inventive, enabling children to perform everyday tasks confidently and to participate successfully in an increasingly technological world. Children will explore a range of different products, learn how to take risks, work together and communicate their ideas, becoming resourceful, problem -solving, innovative, enterprising and capable citizens. As designers, children will develop skills and attributes they can use beyond school and into adulthood.

Assessment and Record Keeping

- Evidence of children's work will be recorded in the children's own subject folders, on video, in photographs, posters, displays or as models.
- A portfolio of work will be collated by the Subject Leader to show progression and evidence of work across the school. This will be added to after each Design and Technology unit has been covered and will be the joint responsibility of the class teacher and the subject leader.
- At the end of each academic year the children's summative assessments will be recorded on the school's assessment tracker. The Class teachers will use KLIPs to assess the children. Children will be tracked as either:
 - Developing** (working towards the expected standard for their year group but not achieved in relation to the assessment criteria for Design and Technology)
 - Secure** (working at the expected standard for their year group in relation to the assessment criteria for Design and Technology)
 - Greater depth** (working above the expected standard for their year group in relation to the assessment criteria for Design and Technology)

Reporting to Parents

Information on children's progress in Design and Technology will be communicated to parents at Parent's Evenings and in a written report at the end of each year. Learning within the classroom will also be shared via the school's Facebook page and school website.

Date of policy: July 2021

Next review date: July 2024

Appendix:

1. Long term plan- Whole school overview.
2. Progression in skills and knowledge.
3. Key stage 2 skills coverage.
4. KLIPs Years 1-6