

Sherwood Primary School

Design & Technology Policy



May 2024

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Sherwood Curriculum Rationale

We aim to provide a creative, vocabulary rich curriculum that inspires and challenges our children, in preparation for life in a culturally diverse and ever-changing world. High expectations, inclusive approaches and excellent teaching will form the basis of all our work. Our children will have the opportunity to read widely, explore, ask questions and become knowledgeable, independent learners. Our Curriculum will prepare our children for life-long learning.

Inspire • Explore • Achieve

Sherwood Values

Teaching and Learning at Sherwood Primary School is underpinned by six core values.

The 6 Sherwood Core-Values are:

- Honesty
- Perseverance
- Respect
- Adventure
- Aspiration
- Independence

Alongside our core values, we also promote the fundamental British values of democracy, the rule of law, individual liberty, mutual respect and tolerance of those with different faiths and beliefs across the curriculum.

Equality

At Sherwood, we believe that equality should permeate every aspect of School life and is the responsibility of every member of our School Community.

Every member of our School Community should feel safe, secure, valued and of equal worth. We are committed to ensuring equality of education and opportunity for all pupils; irrespective of race, gender, gender variance, disability, belief, religion socio-economic background or sexual orientation.

It is our aim to understand and tackle the different barriers which could lead to unequal outcomes for different groups of pupils in School. The Equality Act provides a framework to support our commitment to valuing diversity, tackling discrimination, promoting equality and fostering good relationships between people. It is our aim to celebrate and value the equal opportunity achievements and strengths of all members of our School Community.

Purpose of study

Design and technology allows pupils to use 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. Collaborative work in Design and Technology develops mutual respect for the different groups' opinions, beliefs and abilities of others. In addition, children develop a respect for the environment, for their own health and safety and that of others. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. We value these opportunities at Sherwood.

Aims

The aim of design and technology at Sherwood School is to enable children to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and prepares our children to deal with tomorrow's rapidly changing world. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their design and technology skills to their full potential which allows them to 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.

All children will be given the opportunity to:

- To develop imaginative thinking and to enable them to talk about what they like and dislike when designing and making;
- To think and talk about how things work, and to draw and model their ideas;
- To select appropriate tools and techniques to make quality products, whilst following safe procedures;
- To use and explore a range of materials, resources and equipment;
- To develop an iterative process in the making of a product;
- To explore attitudes towards the made world and how we live and work within it;
- To develop an understanding of technological processes, products, their manufacture and their contribution to our society;
- To use the internet to explore ideas and already made products;
- To foster enjoyment, satisfaction and purpose in designing and making things;

Provision

Pupils are provided with a variety of opportunities to develop and extend their Design and Technology skills throughout each phase of education.

The teaching of Design and Technology at Sherwood Primary School provides opportunities for:

- group work
- paired work
- whole class teaching
- individual work

Pupils engage in:

- practical and investigational work
- designing
- making
- problem solving
- evaluating
- technical knowledge

At Sherwood Primary School we recognise the importance of Design and Technology and the role it plays in the development of skills through collaborative working and problem-solving, and knowledge in design, materials, structures, mechanism and electrical control.

Design and Technology contributes to many subjects and it is important the children are given opportunities to apply and use these skills in real contexts.

We strive to set work that motivates, encourages and challenges the pupils and encourages them to talk about what they have been doing.

Foundation Stage

During the foundation stage we encourage the development of skills, knowledge and understanding that help young children make sense of the world. We relate the development of children's knowledge and understanding of the world to the objectives set out in the EYFS statutory framework. This learning forms the foundations for later work in Design and Technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials and suitable tools. Children have opportunities to develop making skills, handling appropriate tools and construction materials safely and with increasing control. In order to boost their confidence, the children should be encouraged to develop their own creative ideas and imagination, especially in role-play.

Key Stage 1

During Key Stage 1, pupils learn to think imaginatively and talk about what they like and dislike when designing and making. They build on their early childhood experiences of investigating objects around them. They explore how familiar things work and talk about, draw and model their ideas. They learn how to design and make things safely and start to use ICT as part of their design and making.

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 axels) in 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.

Key Stage 1

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

Key Stage 2

During Key Stage 2, pupils work on their own and as part of a team on a range of designing and making activities. They think about what products are used for and the needs of the people who use them. They plan what has to be done and identify what works well and what could be improved in their own and other people's designs. They draw on knowledge and understanding from other areas of the curriculum and use computers using control technology, data bases, spreadsheets and design programs.

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.

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Pupils should be taught to:

- 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.

Health and Safety

When working with tools, equipment and materials, in practical activities and in different environments, including those that are unfamiliar, pupils should be taught:

- About hazards, risks and risk control
- To recognise hazards, assess consequent risks and take steps to control the risks to themselves and others
- To use information to assess the immediate and cumulative risks
- To manage their environment to ensure the health & safety of themselves and others
- To explain the steps they take to control risks.

When teaching Design and Technology, Health & Safety issues must be taken into consideration.

- The children must be fully supervised, especially when using tools.
- All equipment will be stored safely and returned to the correct place at the end of each lesson.
- If using newspapers or magazines to protect tables care must be taken that inappropriate articles, or photographs cannot be seen by the children.
- Wood and other materials for design and technology should be bought from an educational supplier. Some woods have been treated and can be harmful to children
- The correct procedures and techniques must be shown to children before using any tools e.g. scissors, craft knives, glue guns

* See Health and Safety policy for more information

Links with other areas of the curriculum

As well as making its own contribution to the school curriculum, geography contributes to the wider aims of primary education.

English

With careful planning design and technology can provide opportunities for children to develop and apply their literacy skills. Reading and writing skills are essential when the children are undertaking research and design tasks, when collecting information and sourcing materials, making notes and following instructions. They need to be able to communicate in ways appropriate for the task and purpose. The children will be able

to develop their speaking and listening skills along with their communication skills. This is particularly useful with children who have English as an additional language.

Maths

Opportunities occur for children to apply their mathematical skills when measuring materials, designing and planning products and weighing out amounts of food. The use of different tools such as rulers and weighing scales contributes to the children's mathematical knowledge and understanding.

ICT

The use of ICT can help children's learning in design and technology providing access to a wealth of information. Design and technology skills can be developed when using design programmes and web-based research. Children are able to record work and develop their iterative process more freely with the use of ICT to aid their design and technology.

Spiritual, Moral, Social and Cultural Development

Design and Technology provides opportunities to promote:

Spiritual development, design and technology unites the world, children are able to interact with other people and work on collaborative projects.

Moral development, children are aware of how to be safe with tools, how to work collaboratively and share resources, respecting one another's views and ideas. Children are encouraged to use materials which are sustainable and have been sourced ethically.

Social development, design and technology is a very collaborative subject and it allows children to continuously work with others and share ideas and roles within a group. Design and technology encourages children to listen to one another's opinions and ideas and problem solve in groups. Often, children have the opportunity to present their final piece of work and receive praise and critiques from their peers. This is a character-building exercise that supports social development.

Multicultural development, through exploring different materials, food, products the children can gain knowledge of different cultures, learning tolerance and understanding of cultural diversity.

Assessment and Record Keeping Procedures

In deciding on a pupils' level of attainment at the end of a key stage, teachers should judge which description best fits the pupil's performance.

It is important in the assessment of Design and Technology that consideration is given to the processes undertaken, the end product and whether the child has achieved the set objective.

Each Class teacher is responsible for recording their pupil's progress against the objectives for that National Curriculum Unit of work. Whether the pupil is below expectations, in line with expectations or exceeding, expectations will be recorded at the end of each academic year on the Sherwood half termly assessment grids. These are archived each year for the next teacher to access. Comments will be made on the end of year report and passed on to parents.

Role of Subject Leader

Throughout the year the whole staff is encouraged to feedback information and ideas to the Design and technology Leader, such as how a particular topic is progressing and the work that children are undertaking, comments upon the availability and suitability of resources and any other relevant comments about the overall structure of the curriculum units.

The Design and Technology Subject Leader works closely with all staff to co-ordinate Design and Technology through the school. This includes:

- To advise and support staff in planning teaching and learning of design and technology.
- To monitor teachers' planning as part of on-going subject monitoring and evaluation of practice.
- To use feedback from monitoring to develop an action plan for Design and Technology with realistic and developmental targets.
- To continually audit, identify, purchase and organise all resources, ensuring they are readily available and well maintained.
- To ensure the use of Design and Technology in the curriculum is current.
- To promote Design and Technology throughout the school.

Role of Class Teacher

- to ensure progression in the acquirement of Design and Technology skills with due regard to the National Curriculum for Design and Technology 2014
- to develop and update skills, knowledge and understanding of Design and Technology
- to keep appropriate on-going records
- to plan effectively for Design and Technology (with year group partners), liaising with Subject Leader when necessary
- to use the Kapow scheme of work and curriculum over view to keep their lessons lively, engaging and to deliver high-quality Design and Technology to inform parents of pupils' progress, achievements and attainment
- to plan for two Design and Technology days but allow for more time if needed for the children to become competent and master the skill being taught

Special Educational Needs and Disability

Two main areas where special needs pupils may encounter difficulty are communications and making things. Design and Technology offers the opportunity for children to achieve in a practical subject, as they are encouraged to communicate in a different way (not writing), for example use of tape recorder or camera. Children who are physically disabled in muscular control and coordination may have difficulty in using some tools. Other tools are provided where possible in consultation with support staff or an occupational therapist, or tasks are adapted so that the child can succeed. Sensitive grouping encourages shared expertise and this minimizes difficulties in specific areas.

Equal Opportunities

All teaching and non-teaching staff at Sherwood Primary School are responsible for ensuring that all pupils, irrespective of gender, ability, ethnic origin and social circumstances have access to the whole curriculum and the opportunity to make the greatest progress possible in all areas of the curriculum while in our school.

Monitoring and Evaluation

Monitoring and evaluation will be conducted according to the priority given to Design and Technology within the School Development Plan. The Design and Technology Subject Leader is released from their classroom in order to work alongside other teachers. This time is used to monitor and evaluate the quality and standards of Design and Technology throughout the school and enables the Subject Leader to support teachers in their own classrooms. Opportunities for teachers to review the scheme, policy and published materials are given on a regular basis during staff meetings. Books, Seesaw journals, planning, displays and products made are regularly monitored.

Governing Body Involvement

At Sherwood School we have an identified governor for Design and Technology who is invited to attend relevant school INSET and talk to the subject leader when possible. Governors are invited to meet Subject Leaders and report back to the Governing Body after each meeting with the Subject Leader.

Approval

Approval date: May 2024

Review date:

Signed (Headteacher):

Signed (On behalf of the Governing Body):