



Believe and Achieve

Design Technology Policy

Mission Statement

Christian values are the foundation upon which Prees C. E. School is built.

St Chad's Church is at the heart of our school and the wider community. The cross of St Chad symbolises our link through the ages to the Cathedral of our Lichfield Diocese.

We are committed to promoting Christian values such as love, peace, forgiveness and self-control, to enable our children to develop into the people they are meant to be.

The Nature of Design Technology

Design technology prepares pupils to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve quality of life. The subject calls for pupils to become autonomous and creative problem solvers, as individuals and members of a team. They must look for needs, wants and opportunities and respond to them by developing a range of ideas and making products and systems. They combine practical skills with an understanding of aesthetics, social and environmental issues, function and industrial practices. As they do so, they reflect on and evaluate present and past design and technology, its uses and effects. Through design and technology, all pupils can become discriminating and informed users of products, and become innovators.

A Policy for Design and Technology

This policy reflects the school values and philosophy in relation to the teaching and learning of design and technology. It sets out a framework within which teaching and non-teaching staff can operate most effectively and gives guidance on planning, teaching and assessment.

This document is intended for all; teaching staff; school governors; parents/carers (if requested); LA advisers and OFSTED Inspection teams.

Aims of Design and Technology

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.

The aims of teaching and learning of design and technology at Prees incorporate these important ideas, together with LA Curriculum Policy and National Curriculum (NC) Guidance:

- 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.

Our aim is to provide good quality learning experiences for all pupils. In design and technology this includes:

- The provision of appropriate resources
- The encouragement of pupils to be independent in their learning
- The teaching of a range of practical and intellectual skills
- Involvement in cross-curricular design and make projects
- Opportunities to take part in activities hosted by other establishments, e.g. food technology at local secondary schools
- The celebration of achievement in DT
- Visits into school or out-of-school excursions to see DT applications in the wider world. (Under the new national curriculum, this is aspirational.)

Curriculum Provision (see Curriculum Policy)

Design technology, is organised into a Scheme of Work at Prees based on a series of key skills.

In essence, units of work link together three main types of activity: design and make assignments; focused practical tasks (skills); and product analysis (pupils investigate, disassemble and evaluate existing products). At each key stage:-

- Pupils are provided with opportunities for single subject study, integration with other subjects and development of cross-curricular themes and dimensions
- Pupils combine their designing and making skills with knowledge and understanding of materials and technological principles to enable them to design and make products
- Each class undertakes at least one significant design and technology activity per term, varying in duration depending on the nature of that activity
- Design and technology activities are linked to topic work, wherever possible
- Learning objectives are taught through direct skills teaching

EYFS

Important design technology skills are addressed through physical development, understanding the world and expressive arts and design.

Pupils learn through practical activities and should be given the chance to:

- Explore activities based on first hand experiences that encourage exploration, observation, problem solving, prediction, critical thinking, decision making and discussion e.g. using pulleys to raise heavy objects or observing the effects of increasing the incline of a slope on how fast a vehicle travels
- Work in an environment with a wide range of activities indoors and outdoors that stimulate children's interest and curiosity, e.g. encountering objects, creatures, people and plants in their natural environments
- Use a range of tools, e.g. computers, magnifiers, gardening tools, scissors, hole punchers and screwdrivers
- Work with a range of materials in their activities, e.g. wet and dry sand, coloured and clear liquids, compost, gravel and clay
- Use a variety of joining methods and materials to help understanding of design work

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

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.

At the higher levels pupils may:

- Use drawing conventions, illustrate through simple views and make written evaluative comments
- Engage in more complex making, drawing upon a greater range of techniques to create quality products for different purposes

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.

Time allocation

Teachers are responsible for their own short-term design technology planning and are able, at their discretion, to block plan units of work in order to address continuity and coverage of the Programmes of Study. It is recommended that Design and Technology is taught, in block, for once per term. Food technology is taught over a timetabled four week period, where there is access to the Kitchen and support provided by the school cook where possible.

Planning (See Curriculum Planning Policy)

The long term plan outlines the units of work to be covered from EYFS to Year 6 and the included activities to ensure continuity and progression.

Medium term plans provide the key skill and learning intention for each unit together with the levels of expectation at the end of the unit. Class teachers include a focussed practical task and cross-curricular links on the plans.

Class teachers include the learning objectives and progression in lessons through key bullet points in their short term lesson plans.

Assessment for Learning (See Assessment for Learning Policy)

At Prees, assessment is a continuous process, integral to teaching and learning and central to curriculum planning. It is used to inform future planning and to provide information about individuals throughout their time in this school.

Formative assessment techniques will ensure that teachers assess the on-going design process and not just the finished products or outcomes:-

- Teachers' observation of pupils
- Teacher – pupil discussion and teacher questioning
- Pupils' drawings, notes, models, comments and written work
- Artefacts made by pupils
- Pupils' on-going analysis of their achievements
- Photographs of children engaged in the design process
- Use of ICT appropriate

Teachers' summative assessment of pupils' progress must consider their:

- Knowledge and understanding of materials and components
- Understanding of mechanisms and ICT control
- Ability to use materials and equipment safely
- Ability to develop, plan and communicate design ideas
- Interest and motivation in designing and making
- Ability to appreciate and produce items of quality that meet its intended purpose

Record Keeping and Reporting

Records of pupils' achievements are kept to:

- Plan pupils' future learning
- Report progress to parents
- Maintain a written record of pupils' learning
- Provide a curricular record for each pupil
- Fulfil legal requirements

Teachers make assessments on design and technology activities that pupils have undertaken by completing the evaluation section on the Foundation Subject Planning Sheet. Examples of completed work are displayed in school, and the focussed practical tasks are to be kept in the Art/DT sketch books, or videoed and kept on the DT server space where the activity does not allow children to keep the sample themselves. (E.g. video of FPT using a glue gun.)

Information from this is used to assist in the writing of pupils' annual report to parents/carers, and to help teachers inform parents/carers about their child's progress at the Parents' Afternoons and Evenings.

Key Skills

At all key stages pupils at Prees learn, practise, combine and refine a wide range of key skills. The practical nature of design and technology provides many opportunities to develop these key skills, as identified on the medium term plans:

- Communication
- Application
- Information Technology
- Working with others
- Problem Solving
- Thinking skills
- Information processing
- Reasoning
- Enquiry
- Creative thinking
- Improving own learning and performance

Every Child Matters

The teaching of the key skills and knowledge and understanding in design and technology at Prees enables us to meet the requirements of the five key outcomes of every child matters;

- Being healthy
- Staying safe
- Enjoying and achieving
- Making a positive contribution
- Economic well-being

Equalities Plan

At Prees we are committed to ensure that equality of opportunity is available to all members of the school community (disability, race, gender, sexual orientation, etc). This means not simply treating everybody the same, but understanding and tackling barriers which could lead to unequal outcomes for different groups of pupils in school. It is the responsibility of all teachers to ensure that all pupils, irrespective of gender, ability, ethnicity and social circumstance, have access to the curriculum and make the greatest progress possible.

Special Educational Needs and Disabilities

Class teachers provide differentiated learning opportunities to meet the needs for all pupils. Design and technology, in particular, offers the opportunity for pupils to achieve in a practical subject, as they are encouraged to communicate in different ways (not writing).

Able, Gifted and Talented

Class teachers identify pupils who excel in design technology. These pupils are provided with opportunities to further develop their skills and achievements and care is taken to set suitable learning challenges.

Sustainable Development

At Prees we are committed to preparing pupils for a lifetime of sustainable living through teaching and its day to day practices. Sustainability is therefore promoted through teaching of design technology.

Subject Co-ordinator's Role

The design technology subject co-ordinator is responsible for the leadership of design and technology throughout the school. This includes:

- Ensuring continuity and progression across the school
- Preparing a policy
- Developing a scheme of work and advising and supporting colleagues
- Specifying and ordering resources in consultation with staff
- Monitoring and maintaining condition and availability of resources
- Monitoring teaching and learning in design and technology including, half termly monitoring, medium and short term planning, talking to pupils, scrutiny of work, collecting photographic evidence, etc.

Resources and Accommodation

Resources are maintained by and re-ordered by the design and technology subject co-ordinator

Design technology resources are mainly located in:

- Art and DT room resource centre

Health and Safety

It is the teacher's responsibility to ensure a safe working environment and the safety of the teaching equipment should be reviewed regularly. Electrical equipment and knives should only be used under close supervision of the teacher or responsible adult together with the following tools, in general design and technology use:

- Glue Guns Circle Cutters Drills
- Craft Knives Saws Hammers
- Bradawls Drills Rasps

When working with tools, equipment, materials in practical activities pupils should be taught:

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

Evaluation

The design and technology subject co-ordinator, in consultation with the Head teacher, will be responsible for monitoring and implementation of the policy.

The policy will be reviewed regularly by the subject coordinator, governing body together with the rest of the staff.

Recommended by the Curriculum committee

July 2013

Review date

Summer 2016