



Our approach to Design and Technology

What the subject entails

- At Whitegate End Primacy and Nursery School, we believe that design and technology helps to prepare children for the developing world and encourages them to become curious and creative problem-solvers, both as individuals and as part of a team. Through the study of design and technology, they will combine practical skills with an understanding of aesthetic, social and environmental issues.

Why we teach Design and Technology

At Whitegate End Primary and Nursery School, we aim to add a practical learning experience through Design and Technology. In line with the National Curriculum - Programmes of Study, we aim to teach a progressive range of skills, thereby developing a sound knowledge of the application of materials, tools and techniques. Issues of safety are an intrinsic part of the teaching of this subject.

key teaching principles

Design and Technology is taught in line with the National Curriculum Programmes of Study:

"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 to take risks, becoming resourceful, innovative, enterprising and capable citizens."

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 and model their ideas;
- to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to foster enjoyment, satisfaction and purpose in designing and making;
- to use ICT software to assist designing and learning.

We enable each child to:

By teaching Design and Technology, we enable each child to become both 'problem seekers' and 'problem solvers'. It allows them to think imaginatively about their environment and to express their likes and dislikes when attempting to influence, improve and change it. It enables young children to begin to learn how to tackle problems in a practical way by choosing tools, materials and approaches and encourage the development of concepts in a concrete way.

The development of knowledge and facts

Each unit of focus will carry different knowledge and fact elements. It is important children develop their knowledge of designing, making and evaluating at age-appropriate levels and that a clear progression of skills can be seen throughout the school, from when they start at Whitegate End to when they leave.

The development of skills

The Reception Year provides an important foundation for the development of design and technology capability. It extends and broadens the child's home experience, enabling the child to explore a wide variety of materials: sand, water, construction kits, food, paper, wood, textiles, play dough, plasticine, reclaimed materials etc., and to develop skills with simple tools. Some of these experiences will be structured and the children will be encouraged to talk about their observations and ideas with the adults working with them.

In Key Stage 1, children will carry out more structured activities based around a curriculum theme. They will explore and develop skills in designing, making and evaluating a product. Children will also develop their technical knowledge and skills in areas such as: designing a product for a specific purpose, generating and communicating ideas, cutting, shaping, joining, finishing (with support and independently), selecting appropriate tools and materials for their chosen design, exploring and evaluating a range of existing products, using simple mechanisms in their products, testing and improving their product and evaluating their finished product against a given-criteria.

In Key Stage 2, children will build upon their knowledge and skills developed in Key Stage 1. They will base their design ideas and products on a specific KS2 curriculum topic. Children will also build upon and develop their technical knowledge and skills in areas such as: researching and developing ideas based on a specific design criteria and audience, generating and communicating ideas through sketches, diagrams, prototypes and ICT, selecting *appropriate* tools and materials from a wide range, cutting, shaping, joining and finishing *accurately*, investigating and analysing a range of existing products, improving and strengthening complex structures, using more complex mechanisms such as pulleys, gears, cams, levers, linkages and electrical systems, using computing programs to design, build, monitor and assess their product, evaluating their product using a design criteria and using peer assessment to review and improve their product.

How it is taught

We use a variety of teaching and learning styles in design and technology lessons. Our principal aim is to develop children's skills, knowledge and understanding. Sometimes we do this through whole-class teaching, while at other times we engage the children in a research and design and make activity. We encourage the children to ask, as well as answer questions which will help them to investigate and evaluate products they are presented with. They have the opportunity to use various materials, such as wood, plastic and fabric and use these in a variety of ways. They use ICT in D&T lessons where it enhances their learning. The children develop their speaking and listening skills through discussions, evaluations and presenting reports to the rest of the class. They engage in a wide variety of problem-solving activities.

Assessment of the subject and how this is used

Children will be continually assessed with Design and Technology against each of the Skills, through both written and verbal responses. Teachers are also encouraged to keep electronic evidence (photographic). At the end of each topic, a judgement will be made based on their overall understanding and how many of the objectives they have achieved. Either 'secure' understanding; 'working within' understanding or 'working below' understanding. Teachers will track children's progress on the school's assessment system.

Links to other areas of the curriculum

English: D&T offers the opportunity to reinforce what pupils have been learning during English lessons for example: discussion

Maths: D&T will assist pupils in learning about shape and size and will make use of what they have already learned in maths lessons.

Science: D&T will allow pupils to carry out investigations.

Computing/ ICT: ICT enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording.