# DESIGN AND TECHNOLOGY POLICY

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# Design and Technology Policy

## PHILOSOPHY

We want our children to be confident, motivated and independent learners who have respect for others. It is our aim at Greenleas that Design and Technology (DT) prepares our children to take part in the development of tomorrow's rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life.

## INTENT

We live in a designed world where design and technology influence all aspects of life. Design and Technology encourages children to become independent and creative problem-solvers, both as individuals and as part of a group. It enables children to identify needs and opportunities and to respond by developing ideas and making products. Through the knowledge of Design and Technology, children combine practical skills with an understanding of visual, environmental and social 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. Teachers encourage children to develop their investigating, designing, making and evaluating skills by thinking and intervening creatively.

**Our aims in teaching DT are that all children learn to:**

- To give children the opportunity to take part in creative and practical activities.
- To understand the importance of design and technology in the wider world.
- To develop imaginative thinking to enable them to talk about what they like and dislike when designing and making things.
- To enable children to talk about how things work, and to draw and model their ideas.
- To explore computing as a means of design.
- To encourage children to be analytical and critical when they are considering and analysing products.
- To encourage children to select appropriate materials, tools and techniques for making a product.
- To follow safe procedures when using equipment.
- To explore attitudes towards the world and how we live and work within it.
- To develop an understanding of technological processes and products, manufacturing and contribution to society.
- To foster enjoyment, satisfaction and purpose in designing and making things.

## IMPLEMENTATION

The National Curriculum (2014) provides the framework for a balanced programme of study which clearly builds on previous work and takes account of children's experiences. At Greenleas, Design and Technology is taught through subject specific lessons which build on prior skills, knowledge, and learning. In each year group, in alternate half terms, classes will be taught weekly DT lessons which have been chosen to meet all National Curriculum objectives. Subject leaders have created knowledge organisers which sequences the learning in DT across all year groups and ensures a wide breadth of study. Lessons are made accessible for all children using different teaching methods such as discussion, group work, modelling and opportunities to independently practise techniques before applying them to finished pieces of work.

Each strand of the DT curriculum is built upon as they progress through the school from Early Years to Year 4 and is revisited frequently so that the children are provided with opportunities to consolidate previous learning as well as new learning. The progression in knowledge builds allowing the children to master techniques in mechanisms, structures, cooking and nutrition, and textiles. It also allows them to take inspiration from great designers.

Each child is given opportunities to:

Key Stage 1:

- 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.
- 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.
• explore and evaluate a range of existing products.
• evaluate their ideas and products against design criteria.
• 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.
• use the basic principles of a healthy and varied diet to prepare dishes.
• understand where food comes from.

Key Stage 2:
• 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.
• 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.
• 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.
• 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.
• 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**

The safety of our children is paramount at all times. Teachers explicitly teach the safe use of tools and equipment to all children. It is the duty of all staff to recognise and assess the hazards and risks to themselves and others when working with food and other materials. Teachers must take action to control these risks and hazards, and risk assessments must be completed for all new or potentially hazardous activities.

**IMPACT**

Design and Technology will enrich all other areas of the curriculum by equipping children with vital skills for the future. Children will learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Examples of planning and children's work will be kept in a DT floor book in order to share good practice with others within the school and beyond. Design and Technology work will be celebrated and displayed wherever possible to enable it. Opportunities are taken to enhance provision through possible educational visits out of school, involvement of parents and visitors, the use of the school grounds and wider environment. Opportunities are used within the curriculum to encourage the development of school and British values. A range of high-quality resources, including computers are used to underpin the curriculum.

Through our planned and sequenced curriculum, the children develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They 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 and critique, evaluate and test their ideas and products and the work of others. They can apply the principles of nutrition and learn how to cook. They can also design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child.

**REPORTING**

Children's progress in Design and Technology is reported to parents through the annual pupil report.

**MONITORING AND EVALUATION**

A portfolio of work and events is collated from all year groups within school. Evidence of work is also found in class DT floor books, individual child sketch books and displays.

The Subject Leader is responsible for leading, managing, monitoring, evaluating and reviewing the curriculum.

Subject leaders will:

- conduct on-going subject monitoring and work scrutiny to ensure curriculum coverage.
- monitor whole school planning.
- collect evidence of good practice (e.g. photographs, displays).
- support teachers e.g. team teaching, observations and feedback.
- review resource provision.
- evaluate implementation of the Design and Technology policy throughout school.

**ASSESSMENT**

Assessment is an integral part of the teaching process. Progress against skills is tracked. Formative assessment is mostly carried out informally by teachers and should be based on the planned assessment opportunities. Evidence of work is also found in class DT floor books, sketch books and displays. Assessment and feedback to pupils is usually carried out by observation and oral feedback during lessons. At Key Stage 2, pupils are required to show their progression in their sketchbook. From September 2022 each year group will include photographic evidence of any DT work completed in a floor book to document the progress from one year to another. Staff will include a short write up of the work carried out and include any learning objectives met.

**EQUAL OPPORTUNITIES AND INCLUSION**

At Greenleas we have a no ceiling approach to learning where children who are disadvantaged are supported to access and achieve at the same level as their peers. Children with special needs or physical disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum. All children will be supported through differentiation, adaptation or adult support, to enable equal access to learning in Design and Technology. The SENDCO, Subject Leaders and Phase Leaders provide advice for teachers on providing support to individuals with Special Educational Needs and disabilities, including More Able and Talented children.