



# **Greenfield Primary School**

## **DESIGN TECHNOLOGY POLICY**

**Approved by Governors (date)** .....

**Signed on behalf of the Governing Body** .....

**Chair of Governors**



# GREENFIELD PRIMARY SCHOOL

## DESIGN AND TECHNOLOGY POLICY

### Rationale

Children are natural innovators; D&T is an inspiring, rigorous and practical subject that harnesses and directs this innate ability. It also prepares pupils\* to become discriminating and informed users of the rapidly changing products that pervade our society.

Technology is the use of tools, materials and knowledge to create something useful.

Design is the process that enables technology to be used effectively. This process involves identifying a need or opportunity, researching information, exploring ideas then selecting, implementing, evaluating and improving a solution.

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 (e.g. social, moral, cultural and environmental) 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.

*\*All pupils* (irrespective of race and gender) includes the following groups – LAC, D/SEN, Disadvantaged/Pupil Premium, G&T, EAL and other vulnerable groups such as new arrivals and hard to reach families. Activities will be modified as necessary to allow full access to the Design and Technology curriculum.

### Purpose

Through Design and Technology at Greenfield Primary School, we aim to ensure that all pupils:

- achieve and enjoy
- 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
- stay safe by assessing risks and considering how to minimise them
- consider costs when designing a product, contributing to a wider understanding of economic constraints in our own lives
- use and apply key knowledge and skills from across the curriculum, such as:
  - English – speaking and listening, reading and writing

- maths – calculating, practical measuring, shape
- computing - researching, recording, presenting, measuring, designing and simulating.
- use and apply key thinking skills, such as:
  - enquiry, reasoning, creative thinking, problem solving and evaluation
- embrace the principles of SMSC and British values:
  - appreciate the essential role of design and technology in the wider world.
  - ask questions about the development of new technologies and how they may affect our lives
  - consider the impact of technologies on the environment and recognise the need not to be wasteful
  - know that people should carefully consider how best to use new technologies for the good of everyone
  - share materials fairly with other pupils
  - co-operate and collaborate as part of a team
  - recognise how the development of new technologies and the sharing of existing technologies can have a radical impact on the way people live

### **Guidelines**

A variety of teaching and learning strategies and groupings will be used to allow all pupils to reach their full potential, including appropriate differentiation through task, success criteria, outcome or level of support. Key curriculum knowledge and skills will be used and developed together with key thinking skills. The strong cross-curricular links D&T has with all subjects should be exploited as broadly as possible, including outdoor learning where appropriate. Homework opportunities linked to D&T and the wider curriculum, such as research for a project or model making, will be provided and where necessary pupils will be supported to complete it. The D&T subject leader will support all colleagues by providing practical leadership and direction, organising staff INSET/CPD and keeping them up to date with any new developments.

### **Design and Technology in the Foundation Stage**

Foundation stage pupils follow a rich and varied curriculum linked to seven areas of learning.

Early Years Outcomes related to D&T include:

- Use simple tools and techniques competently and appropriately
- Select tools and techniques needed to shape, assemble and join materials
- Manipulate materials to achieve a planned effect.
- Construct with a purpose in mind, using a variety of resources
- Use positional language

### **Design and Technology in KS1**

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 and school, gardens and playgrounds, the local community, industry and the wider environment]. 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

## **Design and Technology in KS2**

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

### **Health and safety in Design and Technology**

Staff and children are expected to consider the safety of everyone at all times. Relevant sections of Greenfield's Health and Safety Policy together with BS 4163:2014 (Health and safety for design and technology in educational and similar establishments - code of practice) are referred to as necessary.

Teacher's will risk assess D&T activities at the point of planning and will continue to monitor with regard to health and safety issues as the lesson unfolds.

More specifically, teachers must ensure that:

- relevant safety instructions are given to pupils each time they undertake a practical D&T activity
- pupils are given suitable instruction on the operation of any equipment
- the adult to child ratio is appropriate to the activity and that children are supervised at all times
- pupils are taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions
- D&T equipment is not left out unsupervised
- surfaces are kept clean and tidy
- tools used are in good condition and stored safely
- the appropriate tool is used for each task
- good practice for the use of specific tools is adhered to (e.g. glue guns and sharp tools such as saws or sewing needles should only be used under close adult supervision and children must not be allowed to wander around the classroom with such tools)

## **Planning/Assessment/Monitoring and review**

The D&T curriculum map is designed to ensure full coverage of the National Curriculum across the school. Each year group has a set of plans outlining key skills that link directly to this map. Ongoing, informal formative assessment allows lessons to be tailored to individual needs as well as informing future planning. Summative assessments are made by the class teacher near the end of the year using the D&T symphony sheets. Pupils are assessed, against age related expectations, as either: emerging (B), expected (S) or exceeding expectations (S+). This data is analysed by the D&T subject leader and is used to drive improvement in the subject. It also forms the basis of the annual subject report. Coverage, standards and attainment in D&T are monitored by the subject leader, the SLT and the governors (through the learning and well-being committees). Parents are kept informed about progress and attainment via parent's evening in the autumn and spring terms and a written report at the end of the year.

Version	Date	Comment
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