

GRESHAM PRIMARY SCHOOL
DESIGN AND TECHNOLOGY POLICY

INTRODUCTION

At Gresham Primary School, we recognise that children are living in a highly developed technological society. They are constantly using and controlling a wide range of technology whether it be the use of a light-switch, calculator, computer system or photocopier. This is all part of their experience of life and one which they will use in the classroom. Design and Technology is about practical problem solving and using materials available to them to solve problems in a person-made environment. At primary school level, we can instil attitudes towards Design and Technology in which the children can realise that in technology there is never just one correct solution. The process of identifying a need, designing a solution, building an artefact and testing and evaluating it can be most satisfying to the child, particularly if it works and has some relevant function or application.

RATIONALE

Gresham Primary School recognises the importance of technology for pupils of all abilities as a subject which helps prepare them for the rigours and demands of adult life and acknowledges the two main areas of the subject, the Design and Technology capability and Computing capability.

DEFINITION

This statement of policy is concerned only with Design and Technology capability. A separate policy statement deals with Computing capability. Design and Technology capability in this school is achieved through opportunities and experiences across the curriculum which enable pupils to take part in a broad range of activities directly concerned with:

- Identifying needs
- Generating ideas
- Planning
- Making
- Evaluating

Design and Technology can be achieved both through a subject approach and topic or thematic approach, i.e. Science - to design and build apparatus for an experiment. Technology - to design and build a battery powered buggy.

AIMS AND OBJECTIVES

Gresham Primary School believes that Design and Technology is an essential component of the curriculum because it aims to develop:

- (1) Basic knowledge and identity of:
 - Materials (natural and man-made)
 - Forms and sources of energy

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Sensing and control systems
Design (planning, organisation, aesthetics, presentation)
Evaluation
Skills in the above area

(2) Competence in:

Use of instruments, equipment, tools and systems
Application of instruments, equipment, tools and systems
Use of materials

(3) Awareness of:

Real life situations and issues
Impact of technology (past, present and future)
Conflicts of interests (personal, economic and environmental)
Aesthetic and social implications

(4) Attitudes should encourage:

Curiosity
Originality
Initiative
Co-operation
Perseverance
Open mindedness
Self-criticism
Responsibility towards materials, tools and environment.

TEACHING AND LEARNING STYLE

Gresham Primary School uses a variety of teaching and learning styles in Design and Technology lessons. The principal aim is to develop children's knowledge, skills and understanding in the subject. Teachers ensure that children apply their knowledge and understanding when developing ideas, during planning and making products and when evaluating them. This is done through a mixture of whole-class teaching and individual or group activities. Within lessons, children are given the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including ICT.

In all classes there are children of differing ability. This fact is recognised and suitable learning opportunities are provided for all children by matching the challenge of the task to the ability of the child. This is achieved through a range of strategies such as:

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Setting common tasks that are open-ended and can have a variety of results;
Setting tasks of increasing difficulty where not all children complete all tasks;
Providing a range of challenges through the provision of different resources;
Grouping children by ability and setting different tasks for each group;
Using additional adults to support the work of individual children or small groups;
Providing support where individual children have particular gifts or talents.

DESIGN AND TECHNOLOGY CURRICULUM PLANNING

Design and Technology is a foundation subject in the National Curriculum and our planning is cross-curricular and linked to the specific curriculum of our school. We follow the International Primary Curriculum which provides a theme based approach to learning. This enables pupils to apply their skills as designers in a meaningful and linked context. The Gresham Learning Toolkit is used alongside this to improve children's capacity to learn and reach their potential.

Activities in Design and Technology are planned so that they build on prior learning. Children of all abilities are given the opportunity to develop their skills, knowledge and understanding, and we also build planned progression into the themes so that the children are increasingly challenged as they move through the school.

Design and Technology generally takes place during afternoon sessions, occasionally a block of days/ afternoons at the teachers' discretion.

DESIGN AND TECHNOLOGY IN KEY STAGE 1 AND 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 and school, gardens and playgrounds, the local community, industry and the wider environment] to design, make and evaluate as well as increase their technical knowledge:

Key stage 1

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]

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- 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

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

DESIGN AND TECHNOLOGY IN THE FOUNDATION STAGE

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Throughout the Foundation Stage, activities and opportunities are planned where children can learn through talk, play and their own life experiences.

Children in the Foundation Stage will experience a variety of activities including:

choosing and exploring a variety of materials such as fabric, card, paper, wood, boxes etc
learning how to use scissors safely and correctly
exploring a variety of joining techniques such as PVA glue, Pritt stick, masking tape, elastic bands
cellotape, treasury tags, split pins, paper clips and string to join materials together
taking part in both cooking and non-cook food activities, learning about the importance of food hygiene
having opportunities to explore creating models using a wide range of construction kits that fit together in a variety of different ways
having opportunities to talk about and explain how they will/have made their model and to discuss what they like/dislike about it
folding and shaping paper in order to create a range of structures

COOKING AND NUTRITION

As part of their work with food, children will be taught how to cook and apply the principles of nutrition and healthy eating, opening the door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables children 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

- 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

INCLUSION

Gresham Primary School recognises the importance of inclusion and the Design and Technology curriculum ensures equal access to all pupils regardless of their ability, aptitude, race, religion or gender. A wide range of gender specific and cultural images and contexts may be used and we will use these opportunities to challenge stereotypes.

MONITORING AND ASSESSING

Each topic is planned and delivered with clearly defined learning objectives which are shared with the pupils. Pupils' work is photographed (when possible) and samples collected, if appropriate. Teachers assess

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children’s work in Design and Technology by making assessments as they observe them working during lessons, allowing for different learning styles. Progress is recorded in the pupils’ learning journals in KS2 and on class record sheets for KS1. Children are encouraged to make judgements on their own progress and achievements as well as ways in which their work can be improved. These assessments will then be used to judge pupils’ level of attainment and progress.

Teachers will assess pupils at the end of a unit as well as at the end of the year as part of the pupil annual report. Pupils will be reported as working ‘at expectation’, ‘above expectation’ or ‘below expectation’ in relation to the National Curriculum.

HEALTH AND SAFETY

At Gresham Primary School we teach children how to follow proper procedures for food safety and hygiene. In this subject the general teaching requirement for health and safety applies. It is the responsibility of the subject leader to pass on any relevant Health and Safety information to staff. It is the individual member of staff’s responsibility to ensure that they have read, understood and act on this information.

RESOURCES

Gresham Primary School has a wide range of resources to support the teaching of Design and Technology across the school. Classrooms have a range of basic resources, with the more specialised equipment being kept in the Science/Art storage. This is accessible to children only under adult supervision.

THE ROLE OF THE SUBJECT LEADER

The subject leader will guide and inspire learning, monitor and evaluate teaching and learning. They will also provide support and guidance to colleagues on teaching the units of work, as well as maintain equipment and make them easily accessible for teachers. The subject leader will attend courses for CPD and report back to staff.

DATE: January 2018

Next Review: January 2020

Confirmation that this DT Policy, in respect of Gresham Primary School, has been discussed by the Governing Body:

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- Signed by:
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- Chair of Governors: Date:
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- Head Teacher: Date:
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- Agreed at the Governing Body Meeting on:
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- Minute Reference: