GPS Design & Technology Policy

1. Introduction

Design and Technology stimulates creativity and imagination and promotes children's skills in technical problem solving. It enables children to design and make products that address needs in a variety of contexts. It also provides visual, tactile and practical experiences and a special way of understanding and responding to the world. Children are given opportunities to reflect upon and evaluate the effectiveness their designs, and to talk with confidence about the designing and making process.

2. Aims

Through teaching Design Technology we aim to:

- develop children's creativity, & the technical and practical knowledge needed to perform everyday tasks confidently
- improve children's ability to participate successfully in an increasingly technological world
- help children to build and apply a repertoire of knowledge, understanding and skills in order to design and make high quality prototypes and products
- encourage children to select appropriate tools and investigate different techniques for making a product
- enable children to begin to understand about the characteristics of different materials and the use of simple mechanisms
- teach children how to analyse, evaluate and test their ideas and products
- ensure that children acquire and develop designing and making skills
- ensure that children understand and apply the principles of nutrition and that they learn how to cook some basic recipes.

3. Whole School Organisation and Management

(i) Planning

Early Years Foundation Stage

Design Technology in the Foundation Stage is developed through 'Understanding the Word', 'Expressive Arts and Design' and 'Physical Development'. Understanding the World enables children to know the similarities and differences in relation to objects and materials, while making observations and e*xplaining why some things occur.* Expressive Arts and Design is broken down into two aspects: (i) Exploring and Using Media and Materials: this is about how children experiment with media and materials finding out about their properties and modifying and manipulating them. It includes exploring sounds, patterns, movement and different tools and techniques. (ii) Being Imaginative: This is about children's explorations into the world of pretence, building on their experiences of the real world and transforming them into something new through role play, pretend play, creations, malleable play, block play or small world play or a range of other areas. In 'Physical Development' the children will show good control and co-ordination when handling equipment effectively. All of these early experiences encourage children to ask questions, investigate, use a range of construction materials and tools, develop their making skills and handle appropriate tools and construction material safely and with increasing control.

Key Stages 1 and 2

At Key Stage 1 and Key Stage 2 Design Technology is taught using the revised National Curriculum 2014. At Grangetown, we seek to teach Design Technology as part of our 'themed curriculum', whereby a series of 'contexts for learning' are created by teachers. This does not weaken the teaching of technology-specific skills – rather it provides a context within which those skills can be taught in a meaningful and relevant way.

In Key Stage One, pupils will be taught:

Design

- to 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

Food and Nutrition

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

In Key Stage Two pupils should be taught:

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

Food and Nutrition

- 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.

(ii) Time Allocation

The time allocated for curriculum subjects is at the discretion of individual schools, and timetabling is always a challenge. However, we do value Design and Technology and we ensure that it is an ongoing and strong feature of our taught curriculum. Teachers skillfully weave the Foundation Subjects into their half-termly topics, ensuing that the areas taught over any given period are relevant to that topic. Sometimes subjects are 'blocked', leading to fewer but longer sessions. Notionally, we could say that, on average, in KS1 and KS2, Design Technology is taught for the equivalent of 1 hour per week, usually as blocked sessions and often linked to other curriculum areas.

(iii) Assessment

- Children's understanding, knowledge and skills are assessed through observation, discussion, questioning and written work. General comments about Design Technology will be made reference to in annual reports to parents and carers.
- Foundation Stage pupils will be assessed in line with the Development Matters document and Reception children will be assessed against the Early Learning Goals.
- Design Technology will have clearly defined learning objectives, shown on the planning sheets, and these are shared with children as part of assessment for learning, in a 'child-friendly' way.

(iv) Continuity and Progression

We draw upon the revised National Curriculum, and upon our Long & Medium Term Planning, to ensure that skills are built upon in a progressive way. Discussion between teachers informally, and in Key Stage and Staff meetings, and the passing on of information at the end of the year, ensures cohesion, both within year groups (every skill taught builds upon skills already acquired) and between year groups.

(v) Cross Curricular Links

Design Technology will be taught through topics and themes and it will be taught through cross-curricular links including English, History, Art and drama and other activities or events. As noted,

this does not weaken the teaching of Design Technology-specific skills – rather it provides a context within which those skills can be taught in a meaningful and relevant way.

(vi) Reporting to Parents

Children's work and achievements for each school year are reported through the end of year report. In addition, teachers will use their own professional judgment to notify parents of any concerns &/or achievements as they see fit. Parents also have the opportunity to meet with teachers in Autumn and Spring term through Parent Consultation days.

4. Lesson Management and Organisation of Teaching

(i) Planning

Teachers plan using a variety of teaching styles in order to provide a broad and interesting Design Technology curriculum:

- Long term plans show the national curriculum coverage at KS1 and KS2
- Medium term planning involves planning for a topic or theme over a term, in addition to planning where a subject area is taught discretely. MTP shows the key skills that the children will be taught in Design Technology that term.
- Short Term plans are the weekly planning and this includes a section for the objectives/skills being taught, details of the activity and the success criteria. The teacher then evaluates the lesson against the success criteria.

(ii) Special Educational Needs

We aim to make access to the arts equal for all of our pupils including our SEN pupils and gifted and talented pupils.

Provision will be made for pupils with special educational needs, where this affects their ability to participate and achieve in a Design Technology lesson. The curriculum will be differentiated through the use of differing pupil groupings, adapted equipment and different levels of pupil activity. Children may need additional teacher or TA support, at times, to help them access the Curriculum.

(iii) Differentiation – meeting the needs of all pupils

At Grangetown Primary School, Design Technology is taught to all children, whatever their ability. Through our Design Technology teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs.

In Design Technology, differentiation can be by outcome, task or intervention. Strategies include:

- pupil groupings, e.g. ability or mixed ability, or group, paired or individual activities, resources, e.g. different equipment for different levels of ability
- pupil activities: different group tasks, different roles and responsibilities, breaking work into smaller steps, different allocations of time, variations of pace within the lesson to match ability.

(iv) Equal Opportunities

All children have equal access to the Design Technology curriculum, whatever their background or ability. Teaching is differentiated appropriately.

(v) Health and Safety Implications

All teachers are responsible for safety in their own lessons. All teaching and learning follows the school's Health and Safety policy.

5. The Role of the Design Technology Coordinator

(i) General

The Design Technology coordinator is responsible for the monitoring and implementation of the Design Technology Curriculum, and the management of Design Technology resources, as follows:

- take a lead in policy and planning development, in consultation with colleagues
- monitor progress in Design Technology and advise on any action needed (see below)
- support colleagues in their development of detailed work plans and the implementation of the scheme of work and in assessment and record keeping activities
- take responsibility for the purchase and organisation of central resources (see below)
- keep up to date with developments in Design Technology, locally and nationally, and disseminate this information to colleagues as appropriate.

(ii) Monitoring

Monitoring of the curriculum is achieved through the scrutiny of exercise books, pupil work and teacher planning, via lesson drop-ins, and through discussion in staff meetings and key stage meetings. All subject leaders receive non-contact time for monitoring – weekly for core subject leaders, and on a rota for foundation subjects. Where a subject is 'in-focus', additional time for monitoring, evaluating and developing the subject is allocated. Subject leaders evaluate produce Action Plans for their subjects, and carry out twice-yearly written evaluations of these plans.

(iii) Organisation of Resources

Each class teacher has resources stored in the classroom, to match the areas of the curriculum they are teaching. Some Design Technology resources and supplies are be stored in a central area, available to all staff – stock is replenished as required.

6. Additional Information appropriate to this Curriculum Area

Current Priorities in developing this area of the Curriculum:

- Monitoring of Design Technology – Look for evidence in Curriculum books that shows designing and evaluating own ideas such as providing research, analysis and explanations. Also look for the skills being taught specific to each year group.
- Order, organise and maintain Design and Technology resources for each class.

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- June 2024
- Next Review: June 2026