



Stroud Green Primary School

Believe and achieve

Stroud Green Primary School, part of a richly diverse community, is a place where all children flourish in a safe, happy and stimulating environment.

Design and Technology Policy

Policy Originator	Jo Bartlett
Governor Responsible	Curriculum Committee
Status	Non-Statutory
Last reviewed	7 th November 2016
Review period	Biennial
Signed	

Introduction

At Stroud Green Primary School, we believe design and technology prepares pupils to think and intervene creatively to solve problems both as individuals and collaboratively, to develop their investigating, designing, making and evaluating skills. It is through Design and Technology that children are taught to look for opportunities, to develop a range of ideas and make a range of products. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators.

Aims and Objectives

Design and Technology is an inspiring, rigorous and practical subject that aims:

- to develop children' designing and making skills,
- to teach children the knowledge and understanding, within each child's ability, that will be required to complete the making of their product,
- to teach children the safe and effective use of a range of tools, materials and components,
- to develop children' understanding of the ways in which people have designed products in the past and present to meet their needs,
- to develop children' creativity and innovation through designing and making,
- to develop children' understanding of technological processes, their management and their contribution to society.
- To understand and apply the principles of nutrition and learn how to cook.

Planning

Design and Technology will engage the children in a broad range of designing and making activities which involve a variety of methods of communication, e.g. speaking, designing, drawing, assembling, making, writing and using information and communication technology. These activities can be differentiated through careful planning and the selection of resources which are appropriate for different ages and abilities. All children must be encouraged to design and make and must be stretched in designing and making.

Teachers plan D&T using the International Primary Curriculum themes to contextualise the children's making. Projects are taught in blocks which allows for more effective learning in which teachers can focus on D&T skills. Teachers will ensure that they have a clear idea of the skills, knowledge and understanding to be taught in each unit of work. Units of work have been selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each Key Stage. Units of work are planned to include designing and making assignments supported by focused practical tasks or skills teaching and work involving reviewing existing products.

Cross-curricular links are identified when appropriate e.g. the children can apply scientific and mathematical knowledge to create products which are functional.

Curriculum Content

In design and technology, children acquire and apply knowledge and understanding of:

- materials and components;
- mechanisms and control systems;
- structures;
- food and horticulture;
- existing products;
- quality;
- health and safety.

Children will:

- develop designing skills, including generating and developing ideas, clarifying a task, creating design proposals, communicating ideas, planning and evaluating;

- acquire and refine the practical skills associated with making, including working with materials and components, tools and processes, e.g. planning, measuring and marking out, cutting and shaping, joining and combining, finishing, and evaluating;
- apply scientific skills, e.g. predicting and fair testing;
- apply mathematical skills, e.g. measuring to an appropriate number of decimal places, drawing and interpreting tables, graphs and bar charts;
- apply computing skills, e.g. making things happen by the use of control, handling information through the use of a database or spreadsheet;
- apply art skills, e.g. investigating texture and colour or recording visual information.

Children will have opportunities in design and technology to:

- work independently and with others, listening to others' ideas & treating these with respect;
- be creative, flexible and show perseverance;
- critically evaluate existing products, their own work and that of others;
- develop respect for the environment and for their own health and safety and that of others;
- recognise the strengths and limitations of a range of technologies and appreciate which are appropriate for particular situations;
- develop their cultural awareness/understanding & appreciate differences and similarities;
- develop understanding that all people are equal regardless of age, race, gender or ability & there needs to be alternative solutions to meet needs of individuals and groups of people;
- find enjoyment, satisfaction and purpose through designing and making;
- apply value judgements of an aesthetic, economic, environmental, moral, scientific and technical nature.

Early Years Foundation Stage

Design and technology in the Foundation Stage is an integral part of the topic work covered during the year. We relate the technological aspects of the children's work to the objectives set out in the Early Learning Goals.

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].

Key Stage 1

At the end of Key Stage 1 most pupils will be able 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 [e.g. 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/use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Key Stage 2

By the end of key stage 2, most children will be able 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 & communicate ideas through discussion, annotated sketches, cross sectional & exploded diagrams, prototypes, pattern pieces & 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/use a wider range of materials & 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 & individuals in DT have helped shape the world

Technical Knowledge

- apply their understanding of how to strengthen, stiffen & 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.

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

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 & 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.

Assessment

The learning outcomes in each unit show how children might demonstrate what they have learnt. Pupils should be involving in actively evaluating their work and thinking about possible improvements. The children's International Primary Curriculum workbooks are a good source evidence of good practice. Areas of success and next steps can be shared

with the children. An annual report to parents and carers details progress and achievements made in designing and making.

Resources

Funding for Design and Technology will be within the school budget plan for each financial year and will cover the purchase of equipment such as tools, construction kits, consumable materials, books and other resource materials related to the IPC theme. It is the responsibility of each class teacher to identify additional resource needs in relation to their project. Any shortages, breakages or losses should be reported immediately to the Design and Technology subject leader.

Children are encouraged at all times to respect and care for their working environment, selecting, using, storing and returning their own materials and equipment tidily, safely and with regard to economy of use.

Equal opportunities and Inclusion

Teachers ensure that children have access to the range of Design & Technology activities and use opportunities within Design & Technology to challenge stereotypes. Children are encouraged and supported to develop their Design & Technology capability using a range of materials. Care should be taken to ensure activities do not have a gender bias. Use of multicultural stimuli wherever possible enhances and enriches design possibilities. Teachers differentiate activities within Design & Technology to ensure that the specific needs of individual children are best met.

Health and Safety

The general teaching requirement for health and safety applies in this subject. Teachers will carry out a risk assessment before each activity, considering their tools, materials and equipment being used. Before undertaking practical tasks, children should be taught to use tools correctly in order to ensure safety.

Monitoring and Reviewing

The Senior Leadership Team is responsible for monitoring the standards of children's work and the quality and breadth of teaching. They will support colleagues in the teaching of Design and Technology by informing them of current developments in the subject and by providing a strategic lead and direction for the subject in school, review planning, monitor children's work and observe teaching in the subject. The quality of teaching and learning in Design and Technology is monitored and evaluated by SLT and Curriculum Committee members as part of the school's agreed cycle of monitoring and evaluation.