

TWEEDDALE PRIMARY SCHOOL

POLICY FOR

DESIGN & TECHNOLOGY

Review of the Policy

This policy provides guidance on teaching and learning at Tweeddale Primary School. It reflects the views of teaching staff and was agreed by the governing body on:

15th June 2016

The policy will be reviewed by the Headteacher annually and by the governing body in Summer 2019 or earlier if required. The implementation of the policy is the responsibility of the staff and will be monitored by the Headteacher, Senior Leadership Team and co-ordinator.

Signed: _____

Date: _____

Chair of Governors

Signed: _____
Headteacher

Date: _____

Design and Technology Policy

Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of Design and Technology at Tweeddale Primary School. Design and Technology prepares children to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve quality of life. The subject calls for children to become autonomous and creative problem solvers, as individuals and as members of a team. Through Design and Technology all children can become discriminating and informed users of products and become innovators.

'Design and Technology is about making things that people want and work well. Creating these things is hugely exciting, it is an inventive fun activity.'

James Dyson – inventor

Aims:

- to provide opportunities for all children to design and make good quality products for a specific use;
- to create an interest in and enthusiasm for designing and making for all children of all abilities;
- to provide a range of activities to develop the children's capability and confidence in their own ideas;
- to help children develop an understanding of the ways in which people from the past and present have used design to meet their needs;
- to develop children's confidence and skills in using and selecting a range of tools and materials safely;
- to help children develop an ability to criticise constructively and evaluate their own products and those of others;
- to encourage a sense of satisfaction and achievement in each child's work;
- to set suitable learning challenges in response to the different learning needs of children;
- to develop technical vocabulary through describing appropriate processes;

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

Children will have opportunities in Design Technology to:

- work both independently and with others, listening to others' ideas and treating these with respect;
- can be creative, flexible and show perseverance;
- critically evaluate existing products, their own work and that of others;
- develop a 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 and understanding and appreciate the value of differences and similarities;
- develop an understanding that all people are equal regardless of age, race, gender or ability and that there needs to be alternative solutions to meet the 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.

Key Stage 1

Through a variety of creative and practical activities, children 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].

At the end of Key Stage 1 most children 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 [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.

Key Stage 2

Through a variety of creative and practical activities, children 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].

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 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
- 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.

Planning

Long Term Planning

Using the National Curriculum Programme of study, Design and Technology Scheme of work for Key Stage 1 and 2 and the curriculum guidance for the Foundation Stage as the basis of their long term planning document teachers refer to their year group planning.

Medium Term Planning

- Using the objectives from the National Curriculum and Cornerstones, teachers identify the learning objectives for each unit of work, matching possible teaching

activities with learning outcomes and ensuring essential key objectives are covered at least once throughout the year. UNCRC, Mission Statement and Basic Skills and cross-curricular links to be made in planning where applicable.

Short Term Planning

This is done on a weekly basis referring to medium term plans.

When planning, the following should be kept in mind:

- IDEAs, investigating, disassembly and evaluation activities (how familiar products work and what they are supposed to do).
- FPTs, Focused Practical Tasks (developing a range of techniques, skills, process and knowledge).
- DMAs, Design and Make Assignments using a range of materials.

KS1 - Including food textiles and items that can be put together.

KS2 - Including electrical and mechanical components, food, mouldable materials, textiles and stiff and flexible sheet material.

Assessment

The learning outcomes in each unit show how children might demonstrate what they have learnt. Children should be involved in actively evaluating their work and thinking about possible improvements. The actual work children produce will serve as a record of the achievement, therefore it is not necessary to make detailed records of each child in relation to the outcomes. However, teachers should make notes, scan plans and drawings or take photographs of pieces of work as evidence of individual children's development.

Monitoring and Reviewing

The Design and Technology co-ordinator is responsible for monitoring the standards of children's work and the quality and breadth of teaching. The coordinator supports 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.

The co-ordinator is also responsible for evaluating strengths and weaknesses in the subject and identifying areas for improvement and development. Subject Leader release time will enable the coordinator to fulfil the role, reviewing medium term plans, monitoring children's work and observing teaching in the subject.

Resources

A resource audit and purchase is carried out annually. Before new stock is ordered, teachers fill out request lists based on specific needs for their future art lessons.

There are both central resources in the D.T. cupboard and also some supplies are kept in individual classrooms.

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.

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.

- Parents are an invaluable source of skills and information, and may be invited to demonstrate and teach their skills, or may indirectly share their skills through assisting with Design Technology lessons. The school must be notified of any visitors in advance.
- The Health and Safety Policy and risk assessments must be referred to before booking or arranging any outings. The child:adult ratio must be adhered to at all times. Visits out of school need to be well supervised with appropriately briefed adult helpers supporting teaching staff.
- Please refer to the Health and Safety Policy.

Equal Opportunities

Through our design and technology teaching we will provide learning opportunities that enable all children to make progress. We do this by setting appropriate learning challenges and responding to each child's different needs. All design and technology activities will ensure an equal interest and participation level for both boys and girls. We will also ensure that no children, for example PPI children, are disadvantaged by an inability to pay for materials.

Special Needs

Those children who are recognised as having special educational needs will follow similar programmes of study as their peers. However, the work, if necessary will be differentiated to meet individual children's needs.

The Role of the Subject Leader

The work of the subject leader involves supporting colleagues in the teaching of design and technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school through the Subject Development Plan. The design and technology subject leader gives the Headteacher a termly report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

Review of the Policy

At the end of each academic year, this policy will be discussed and if necessary revised in the light of any changes made locally and nationally.