DESIGN AND TECHNOLOGY POLICY

There are four main purposes to this policy:

- To establish an entitlement for all pupils;
- To establish expectations for teachers of this subject;
- To promote continuity and coherence across the school;
- To state the school's approaches to this subject in order to promote public, and particularly parents' and carers', understanding of the curriculum.

Introduction

The importance of design and technology to the curriculum

Design and technology (D&T) prepares pupils to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve the quality of life. The subject calls for pupils to become autonomous and creative problem solvers both as individuals and as members of a team. They must look for needs, wants and opportunities, responding to them by developing a range of design ideas for making products and systems. In their designing and making, pupils combine practical skills with an understanding of aesthetics, social and environmental issues, function and industrial practices. As they do so, they reflect on, learn from and evaluate present and past design and technology, its uses and effects. Through D&T all pupils can develop innovation and become discriminating and informed users of products.

Expectations

By the end of Key Stage 1, the performance of the great majority of the pupils should be within the range of levels 1 to 3. Most pupils are expected to achieve level 2.

By the end of Year 4, the performance of the great majority of pupils should be in the range of levels 1 to 4. Most pupils are expected to achieve level 3.

By the end of Key Stage 2, the performance of the great majority of the pupils should be within the range of levels 3 to 5. Most pupils are expected to achieve level 4.

The aims of design and technology and how these contribute to the school's aims

The school aims to:

- provide a relevant, challenging and enjoyable curriculum for D&T for all pupils;
- meet the requirements of the National Curriculum Programmes of Study for D&T;

- develop all pupils' designing and making skills and technical knowledge and understanding, using a range of tools equipment and components safely;
- use D&T as a tool to enhance learning throughout the curriculum;
- respond to new developments in design and in new technologies;
- involve pupils in relating directly to their own environment both at home and in the wider community;
- make D&T a valued environment in our school, which promotes the public image of the whole school and assists pupils in developing their self-esteem;
- enable pupils to work with a range of products and in creative problem solving both as individuals and with others;
- make appropriate use of ICT in D&T activities;
- develop critical awareness in pupils in terms of aesthetics, social and environmental issues, function and industrial practices;
- encourage pupils to become understanding and discriminating consumers.

Strategy for implementation

Entitlement and curriculum provision

D&T is allocated about 3 per cent of curriculum time, which is 24 hours at Key Stage 1 and 27 hours at Key Stage 2 per year. This time is used to implement the D&T scheme of work, ensuring that the different elements of designing, making and working with products are given appropriate emphasis.

Teaching and learning

D&T activities are taught in a variety of ways across the school, sometimes in blocks of taught time, as part of a topic, or in short skills-based activities. D&T has relevance across the curriculum and links with other subjects; science and art and design, in particular, are identified in the units of work.

D&T activities are planned to ensure continuity and progression by building on the specific knowledge skills and understanding contained in the subject profile. Appropriate units of work have been planned using an amalgamation of the QCA scheme of work and the Devon LEA scheme of work. In consultation with the subject leader, units of work may be amended to meet the needs of pupils, provided progression and continuity are not adversely affected.

Assessment and recording

Assessment is based on a combination of teacher assessment and pupil self-assessment. Assessment opportunities are identified within each unit in the scheme of work. All members of staff are trained to assess the skills, knowledge and understanding of D&T within each unit. Each term, all pupils' records are updated and this should be used to inform the annual report to parents and the end-of-key-stage assessments.

Teachers ensure consistency of judgement across the school by using published materials such as the Devon LEA Assessment in D&T Guidelines, supplemented with examples from the school.

Continuity and progression

The scheme of work takes these fully into account; tasks provide both continuity and progression. Consolidation of the skills, knowledge and understanding in D&T is carried out by its use to support learning in other subjects, such as literacy, numeracy, science and art.

Inclusion

Teachers provide differentiated resources for each task, with extension activities for the more able. Additional classroom support, ICT programmes and appropriate tools and equipment are provided to ensure that all pupils have sufficient access to the D&T curriculum.

Organisation

D&T is taught as a discrete subject and following advice from OFSTED, QCA and the LEA, as a whole-class activity. This ensures that all pupils have the opportunity to gain D&T skills, knowledge and understanding in a structured way. During the making phase of some activities and some aspects of food technology, pupils should work in well-supervised groups.

D&T is used to support learning within other curriculum areas, notably literacy, numeracy, science and art. These activities consolidate D&T skills, knowledge and understanding by using contexts based on real experiences and situations working in whole-class, collaborative group and individual activities.

All teachers are expected to teach D&T. Educational support assistants are trained to support pupils in D&T lessons and have been made aware of health & safety guidelines, particularly for food technology activities.

The curriculum

Planned activities are designed to enable pupils to develop their skills, knowledge and understanding, being taught through:

- investigating and evaluating a range of familiar products, including how they work and how well they work;
- focused practical tasks that develop a range of techniques, skills, processes and knowledge;
- design and make assignments where the pupils use a range of materials.

Learning resources

In line with recommendations in the subject order, teachers provide a range of good quality materials, tools and equipment. At Key Stage 1 pupils use a range of materials, including textiles, food and items that can be assembled to make products. At Key Stage 2 pupils use a range of materials including stiff and flexible sheet materials, textiles, mouldable materials, food, electrical and mechanical components.

Most of the materials and equipment are organised in the central D&T store. All classrooms have a supply of basic materials. Sufficient materials are available for all units in the scheme; educational support assistants are trained in the correct and safe use of equipment and food hygiene guidelines. Each task in the scheme has a section that identifies the resources required and, where appropriate, the focused practical task needed to introduce new practical skills.

Tools, equipment and consumables required in order to teach the units of work in the scheme are checked each year and replaced as necessary.

Staffing

Teachers are responsible for ensuring that all tasks in the scheme are taught. In Key Stage 1 teachers are expected to spread activities across each term so that a wide range of skills is covered. At Key Stage 2 teachers are expected to cover each unit in a discrete block and incorporate three units of work in a year.

The D&T subject leader is responsible for monitoring resources, supporting colleagues, providing training where required and for monitoring standards.

The learning environment

Teachers are responsible for ensuring that there are sufficient design stimulus materials available. This should include a range of familiar products for product evaluation activities. Where appropriate, examples of designing and making work are mounted on walls to stimulate pupils' creative abilities and inform parents of the nature of the work undertaken.

Safe practice

When working with tools, equipment and materials, pupils are taught the appropriate health and safety procedures and understand the steps they should take to control risks. In line with LEA guidelines, the school has adopted "Be Safe & Make it Safe", supplemented by the guidelines in the DATA D&T Co-ordinators' file.

In addition:

- all staff receive training to enable them to demonstrate correctly the safe use of tools and equipment;
- particular attention is paid to the safe use of craft knives, which are only to be used by adults and under close supervision by pupils in Years 5 & 6;
- low-melt glue guns are for adult use across the school and for use in Years 5 & 6 by pupils who have been trained and who can demonstrate that they can use the equipment safely and correctly;
- all adults working with the pupils will have read and understood the school's food technology guidelines.

Extension or extra-curricular opportunities

The school takes appropriate opportunities to ensure that D&T activities are related to real-life experiences and to provide opportunities for trips or visits related to designers and makers. Pupils have the chance to work on local and national initiatives related to the development of their skills, knowledge and understanding of D&T, such as an annual D&T Week and the Young Engineers' Projects.

Homework

Most units in the D&T scheme identify suitable tasks that can be set as homework. These include product evaluation, investigation of mechanisms, surveys to discover people's preferences, design drawings, prototypes, and research.

The role of parents and carers

Parents and carers are encouraged to be involved with their pupils' learning through supporting classroom activities, attending parent evening activities provided by the school and by looking at D&T displays. Teachers give advice so that parents and carers can provide activities at home to complement pupils' experiences in school.

Contribution of design and technology to other subjects in the curriculum

Literacy

D&T is a useful vehicle for teaching aspects of the Literacy Strategy. Teachers are expected to use the organisational structure of language, features of recounted texts, use of instructions and non-chronological reports to enhance pupils' literacy skills, for example, when pupils produce step-by-step plans, retell the sequence in which they made their products and when analysing, classifying and describing existing products. Pupils should consolidate their skills in reading by following instructions, seeking information, scanning and skimming text and reading captions and labels in

design work. Pupils are taught the meaning, the use and spelling of technical and specialist vocabulary.

Numeracy

D&T provides ample opportunities for the practical application of mathematics. Pupils are encouraged to choose and use appropriate ways of calculating measurement and distances and to check the results of their calculations. They may be required to use fractions and percentages to describe quantities and proportions, read and interpret scales, identify position and direction.

ICT

Opportunities for pupils to use ICT are identified in the scheme. To develop pupils' skills, knowledge and understanding in ICT, pupils have access to a range of activities including those where they:

- use, draw and paint programs to model ideas;
- use database and other information sources for research;
- develop their understanding of sequencing and control systems;
- use CD-ROMs to find out about other times and cultures;
- develop their awareness of how ICT is used in the wider world.

Spiritual development

Where possible D&T activities are used to encourage pupils to recognise and value their own and other people's creativity and understand the tensions between material & non-material needs that may occur when designing.

Personal, social and health education

D&T activities help pupils to reflect on how technology affects the environment and how design decisions are influenced by value systems. They are encouraged to recognise the need to consider the views of others when discussing design ideas and explore the contribution of products to the quality of life within different cultures. Pupils are encouraged to manage their environment to ensure the health and safety of themselves and others, to develop their sense of responsibility in following safe procedures and understand both the importance of personal hygiene and how to work hygienically.

Leadership and management

Staff development and training opportunities

The D&T skills' needs of individual members of staff are identified through regular needs' analysis activities, and the D&T subject leader addresses these needs through training sessions.

Leadership and management roles

The governing body and the headteacher are responsible for monitoring, reviewing and changing the policy and development plan for D&T. The D&T subject leader is responsible for day-to-day management. Curriculum discussions take place within the school each term.

How the subject is monitored and evaluated

The governor with responsibility for D&T, the headteacher and the D&T subject leader monitor the implementation and effectiveness of this policy. The impact of the tasks within the scheme on pupils' capability is measured against the success criteria identified in each module. Where the impact is less than expected, the contributory factors are identified and addressed. Teaching staff are asked to use their assessment data to evaluate the effectiveness of the scheme. The D&T subject leader reviews periodically training needs and reports back to the senior management team so that these needs can be incorporated into the whole-school development plan as required.

Review

This policy will be reviewed annually in line with the school's policy review programme. The subject leader is responsible for reporting to the governors' curriculum committee about the quality of its implementation and its impact on standards. In the light of this, policy amendments may be made.