BURTON BRADSTOCK SCHOOL

Design and Technology Policy

At Burton Bradstock School we deliver a creative curriculum where subjects are taught within a whole school theme, called a Learning Quest, each term. This approach encourages our pupils to use their imagination and make links across topics and subjects thereby giving depth and breadth to their knowledge as well as the ability to learn and apply a range of skills in different contexts.

Introduction

"Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, become resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology makes an essential contribution to the creativity, culture, wealth and well-being of the nation."

National Curriculum 2014

Aims

Regardless of gender, ethnic origin or ability we specifically aim to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

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 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.

Curriculum

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 (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

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 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

Planning

Long Term Planning

The school uses the National Curriculum Programme of Study, curriculum guidance for the Foundation Stage and the Chris Quigley Essentials Curriculum as the basis

for the long term planning document. These are used creatively around the school's two-year rolling programme of Learning Quests.

Medium Term Planning
Using the objectives from the National Curriculum, teachers identify the learning objectives for each unit of work, matching possible teaching activities with learning outcomes and ensuring essential key objectives and skills are covered during each two-year programme.

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

When planning the following are 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
- Differentiation to meet the needs of all pupils

Assessment

The learning outcomes in each unit show how children will demonstrate what they have learnt. Pupils are involved in actively evaluating their work and thinking about possible improvements. Photographs of the work, including prototypes, can be taken as record of achievement as well as notes made by the teacher on individual children's development.

Attainment, Progress and Effort are reported annually in the end of year reports to parents/carers.

Resources

Resources are stored in the cupboards in the practical areas in the classrooms. Teachers are responsible for the safe storage of class-based equipment. Any breakage or loss should be reported to the co-ordinator. Children must be offered a range of equipment and materials to develop skills in using appropriate resources. As many resources as possible should be directly accessible to the children during the lesson, to encourage independence and initiative.

Health and Safety

All aspects of Design and Technology present risks that must be assessed. Children must be involved in these assessments through initial discussions before new activities begin. They must then be reminded of safety aspects and potential hazards with the development of trust and independence.

All county or government guidelines should be adhered to. If in doubt, teachers must refer to the subject co-ordinator.

Other adult helpers must be given clear guidance before working with a group. Written procedures for health and safety must be displayed and pointed out if the teacher is unable to supervise directly.

Equal Opportunities

As a school we are committed equal opportunities as set out in the Equality policy and, therefore, ensure that all children, regardless of their age, gender, disability, religion or ethnicity have access to Design and Technology education. Tasks will be planned to take account of the interests of both boys and girls. Teachers will be sensitive to issues related to race and religion in food technology in particular.

The Role of the DT Co-ordinator

- To purchase, organise and maintain teaching resources
- To assist with diagnosis and remediation of learning difficulties
- To encourage and assist in-service training
- To keep up-to-date by attending courses and feedback sessions organised by LA, Cluster groups, MAT or other colleagues
- To provide guidance and support in implementing NC and schemes of work
- To offer specialist advice and knowledge for special needs and able pupils
- To advise the Headteacher of action required to develop the subject
- To encourage ways of involving parents in their children's learning
- To liaise with Governors, as appropriate
- To monitor planning, teaching and learning

*This policy should be read in conjunction with the school's Curriculum Policy and Assessment Policy.