Design and Technology Policy

Purpose of Study

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, becoming 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 education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims 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.

Attainment Targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study**.**

Subject Content

Key stage 1

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].

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

- 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.
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Key stage 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, school, leisure, culture, enterprise, industry and the wider environment].

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

- **S**elect 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.

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, referring to 'The Eatwell Guide'. Learning to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Key Stage 1

- Use the basic principles of a healthy varied diet to prepare dishes
- Understand where food comes from

Key Stage 2

- Understand and apply the principles of a healthy varied diet
- Prepare and cook a variety of predominantly savory dishes using a range of cooking techniques
- Understand seasonality, and know where and how a variety of ingredients are grown, reared , caught and processed
- Understand where food comes from

Teaching and Learning

D&T is taught from Y1 to Y6. KS1 and KS2 use a collaboration of a variety of websites formulated by the D&T Lead. Nursery and Reception classes are part of the Early Years Foundation Stage we relate the development of the children's knowledge and understanding of the world to the objectives in the Early Learning Goals. These underpin the curriculum planning for children aged 3 to 5. This learning forms the foundations for later work in D&T. We provide a range of experiences, both indoor and outdoor, that encourage exploration, problem solving, critical thinking and discussion.

Assessment

Children are assessed against the national curriculum targets relevant to the given topic. These are provided with planning and are then put into children's workbooks. These are assessed continuously and are marked on a RAG basis and dated. Teachers make a final judgement, which is then reported to the D&T and Assessment leads. Analysis of assessment data is used to set targets and alter teaching in order to address particular identified target groups.

Monitoring and Evaluation

Science is monitored following Pleasant Street's Monitoring Schedule which includes book looks, learning walks, pupil interviews and teacher evaluations.

Equal Opportunities

Experience of Design Technology is an entitlement of all children and is essential to enable them to achieve their full potential as individuals and members of society. The needs of all children will be catered for through appropriate provision.

Health and Safety

Prior to using tools and equipment, children will be taught how to handle and use them safely and they will be kept under observation when using them. They will be taught health and hygiene rules when handling food.