



Thomas Bullock Primary School

Design and Technology

'Design and Technology should be the subject where mathematical brainboxes and science whizzkids turn their bright ideas into useful products'. James Dyson

Policy Overarching Objective

Design and Technology aims to equip children with the necessary skills and opportunities to participate in the fast paced, technological world we live in today. The subject develops children's creativity and problem solving skills which they can apply to their daily lives and allows children to draw on their subject knowledge from other areas of the curriculum including maths, art and computing. Children learn to take risks, become resourceful, innovative and capable members of society.

The aims and objectives of computing are in line with the National Curriculum and enable children:

- To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- To 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.
- To critique, evaluate and test their ideas and products and the work of others.
- To understand and apply the principles of nutrition and learn how to cook.

Intent

Design and Technology lessons are delivered as part of the curriculum offer. Objectives for lessons are underpinned by the National Curriculum. Design and technology is an inspiring, rigorous and practical subject. At Thomas Bullock Primary School we encourage pupils to use their creativity and imagination, to design products that solve real life problems. Wherever possible, we try to link lessons to other areas of the curriculum such as Maths and Computing. 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 and risk-takers.

Implementation

In our Early Years:

The staff team will plan for children to experience creative opportunities and develop key skills and techniques within the EYFS curriculum. There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project. Nursery and Reception classes will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design and Technology.

In Key Stage 1 pupils are taught to:

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].

When designing and making, pupils should be taught to:

- **Design:**

To design purposeful, functional, appealing products for themselves and other users based on design criteria. To generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

- **Make:**

To select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].

To select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

- **Evaluate:**

To explore and evaluate a range of existing products. To evaluate their ideas and products against design criteria.

- **Technical knowledge:**

To build structures, exploring how they can be made stronger, stiffer and more stable. To explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

In Key Stage 2 pupils are taught to:

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].

When designing and making, pupils should be taught 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. To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

- Make:

To 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:

To investigate and analyse a range of existing products. To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. To understand how key events and individuals in design and technology have helped shape the world.

- Technical knowledge:

To apply their understanding of how to strengthen, stiffen and reinforce more complex structures. To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. To understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. To 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.

To understand where food comes from.

Key stage 2:

To understand and apply the principles of a healthy and varied diet.

To prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

To understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Impact

As an inclusive school, we recognise the need to tailor our approach to support children with Special Educational Needs as well as those who would benefit from further enrichment and challenge.

Appropriate arrangements are made by the class teacher to accommodate any specific special needs that a pupil may have, thus enabling them to participate fully in Design and Technology. The class teacher, in collaboration with the Design and Technology co-ordinator, will identify pupils who show a particular talent for Design and Technology and provide appropriate provision made for them. Children's skills will be assessed by the class teacher during lessons and final outcomes produced by the children. Displays within the classroom and hall areas will reflect a range of work across key stages, to celebrate and exhibit the work of children, of all abilities.

Cultural Capital links to Design and Technology

Pupils have the opportunity to participate in helping the local community by designing Christmas crafts and selling them. Building Christmas boxes filled with essential items to support people in need. Pupils are set half term projects to create 3D projects are that linked to their upcoming topic. In addition, we aim to provide pupils purposeful experiences to enhance their learning of different aspects of the Design and Technology unit by taking part in Healthy Eating Week.