



INCLUSIVE LEARNING FEDERATION

Bradwell Village School **Design and Technology Policy**

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Date: September 2021

Approved by: Full Governing Body

Date: July 2023

Last reviewed on: July 2023

Next review due by: September 2024

Design and Technology Policy

Introduction

Design and Technology is an inspiring, rigorous and practical subject which draws on the disciplines of mathematics, science, engineering, computing and art. 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. High-quality Design and Technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Intent

We aim to create a high-quality design and technology curriculum which ensures that the planned activities our children undertake are challenging, motivating, relevant and enjoyable. We aim to give children confidence in their work by providing continual support and encouragement. The children are extended in their work in a way which develops their expertise and enables them to think about the wider world in order to solve real and relevant problems. Our aim is for the children to acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art.

This policy follows the National Curriculum for Design and Technology and aims to ensure that all pupils:

- are provided opportunities to design and make quality products;
- are given the opportunity to explore food and cooking techniques along with healthy eating and environmental issues within food production;
- develop design and making skills, knowledge and understanding to the best of each child's ability; using and selecting a range of tools, materials and components;
- become creative problem solvers as individuals and members of a team;
- develop an ability to criticise constructively and evaluate their own products and those of others;
- develop an understanding of the ways people in the past and present have used design to meet their needs.

When designing the children learn to:

- 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 diagrams, prototypes, pattern pieces and computer-aided design.

When making the children learn 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.

When evaluating the children learn to:

- 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.

Our aim is to develop the children's technical vocabulary which is relevant to Design and Technology and which apply to their understanding of:

- how to strengthen, stiffen and reinforce more complex structures;
- the use of mechanical systems in their products;
- the use of electrical systems in their products;
- computing to program, monitor and control their products.

By the end of year 6, we aim for the children to be able to:

- evaluate the effectiveness of products designed and made by them or their peers;
- understand risks that are involved in some design and technology tasks;
- develop a creative and innovative mind with the ability to think innovatively;
- use technical knowledge and accurate skills to independently problem solve during the making process;
- use research into famous designers and inventors to independently inform design of own products;
- understand, build and use more complex mechanical and electrical systems;
- use knowledge of existing products to design own functional product and for a particular purpose;
- talk about their unique ideas and how they would develop them;
- develop responsibility for their own health and safety and that of others when undertaking practical tasks.

Implementation

We use a knowledge and skill based cross-curricular approach to teaching and learning using objectives taken from the National Curriculum and the curriculum materials developed by the Design and Technology Association. We teach design and technology knowledge and skills discretely, ensuring all children access all areas of the design and technology curriculum.

The teachers identify the most appropriate teaching strategy to suit the purpose of the learning situation and use their flair, enthusiasm and professional judgement to identify the most sensible, enjoyable and safe methods for the work being conducted.

The teaching and learning strategy used is matched to the type of design and technology activity as well as to the needs and abilities of the child. There are a variety of ways in which we ensure that Design and Technology lessons are effective by including the following elements:

Discussion: what the pupils already know from experience, what they have learnt so far, what they will be finding out next. Where necessary, mind mapping and question boards are appropriate methods for recording these discussions.

Teaching: directly to the whole class or through group or individual work.

Practical tasks: working within groups or individually, choosing suitable materials and tools, experimenting with materials, being encouraged to think creatively. Where groups are required, the teacher considers which type of grouping will best suit the needs of the children.

Recording: diagrams, model making, written explanations, designing, sketching, exploded diagrams, evaluating in a range of different ways.

Communicating: sharing ideas, knowledge, and what they have found out with each other, the teacher, other classes and adults as appropriate.

Children have the opportunity to say what they know and what they want to find out and at the end of the topic say what they have learnt. They can change their way of thinking through careful planning and trial and improvement. Children link learning to their own experiences and across the curriculum. Where appropriate, links with other curriculum areas will be made explicit during teaching.

Inclusion: Provision for more able, SEND, EAL, Pupil Premium:

All children will have quality first teaching. We comply with the requirements set out in the SEND Code of Practice in providing for children with special needs. In most instances the teacher will provide resources and educational opportunities which meet the child's needs within the usual class organisation. If a child's needs are more severe, we will ensure that they have the appropriate provision to meet their needs. We may involve appropriate external agencies if needed.

Health and Safety:

To ensure Design and Technology is delivered in line with the school's health and safety policy, everyone has a duty of care and must follow the Health & Safety guidelines.

- Risk assessments are carried out and are on-going prior to and during lessons.
- The equipment, apparatus and environment/s are safe prior to and during the lessons.
- All equipment is stored safely.
- Children are given health and safety advice during lessons as necessary.

Special Educational Needs Disability (SEND) / Pupil Premium / EAL/ Higher Attainers

All children will have Quality First Teaching and an adapted Curriculum. A variety of teaching methods and resources are used to cater for individual learning styles and needs, and to maximise participation/ engagement in lessons, e.g., games, oral presentations, cloze procedures, role-play, dictation, dictionary work, videos, etc. Our school offers a demanding and varied curriculum, providing children with a range of opportunities in order for them to reach their full potential and consistently achieve highly from their starting points.

Any children with identified SEND or in receipt of Pupil Premium funding may have work additional to and different from their peers in order to access the curriculum dependent upon their needs.

Adaptive Teaching

To enable all children to access learning in Design & Technology, all lessons are adapted. The following strategies are used to adapt writing:

- Resources are closely matched to the individual pupil's level of ability;
- pace within and across lessons which ensures individual pupils move on at a pace to suit their level of understanding and learning needs;
- resources are used to support and deepen understanding and which are used in different ways depending on the needs of the individual pupil e.g., a variety of models and resources;
- self-selection activities which encourage the pupils to reflect on their learning needs and push themselves to meet new challenges;
- common tasks which are open ended activities/investigations where adapted learning is by outcome and linked to the support needed;
- additional teacher support to assist different abilities ensuring the pupils are suitably challenged in order to make progress.

Vocabulary

At Bradwell Village School opportunities for the development of the vocabulary and phrases relating to design and technology are provided during a range of activities and using a variety of resources – textual, artefacts and online. There is also discussion about the content of these resources which enrich and develop the children's understanding of the design and technology knowledge and concepts. The children have opportunities to discuss the meanings of words, the identification of similar words and connections between words.

Remote learning

Children have access to learning resources delivered through Padlet or Google classrooms and they are able to respond to the tasks set either through the above platforms or by emailing their work to their class teacher.

Developing staff's knowledge and understanding of design and technology

To enable the staff to deliver an effective curriculum for Design and Technology, the curriculum leader provides the planning for each class following discussions with the class teachers. During the weekly teachers' meetings there are opportunities for curriculum leaders to lead sessions to develop class teachers' understanding of the Design and Technology topics planned for the term.

Assessment and Impact

Formative and summative methods of assessment are used in Design and Technology. Children review their successes in achieving the lesson objectives at the end of every session and are actively encouraged to identify their own target areas. These targets are shared and

verified by the teachers as necessary. They will also record what they have learned from their starting points at the end of every topic.

Summative assessments use the outcomes of work, which are regularly monitored, to ensure the individual child has a sound understanding of the key identified knowledge. Class teachers assess children's knowledge and understanding of Design and Technology prior to recording this on Insight. This data is then analysed and used to plan further actions to improve the provision of art for all children.

Monitoring

This policy is monitored through:

- lesson observations;
- learning walks;
- work scrutiny;
- the monitoring of planning;
- progress data.