Design and Technology Policy 22-23

Date of review – Autumn 2023

Curriculum Rationale

We have the following goals in all curriculum areas:

Success – We celebrate individuality, and the success that each child has, and we recognise that this will take a variety of forms.

Motivation – We aim for all of our children to be motivated young people who have a desire to do their best and try their hardest.

Confidence – We provide a nurturing environment where all our pupils develop confidence in themselves to be successful members of their community.

Aspiration - We are aspirational for our children, providing a curriculum that ensures each learner has the opportunity to reach their true potential.

These aims are achieved by adhering to the following learning motto:

IGNITE – EXCITE – ENGAGE

We aim to:
Ignite a passion for learning and the curiosity to explore the world.
Excite pupils with a curriculum that is fun, and which contains a wealth of rich experiences
Engage all learners and members of the community.

Design and Technology

1.) Definition

High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation" (National Curriculum Document 2014)

Design and Technology is a subject where children's capability in designing and making is developed through combining their designing and making skills with knowledge and understanding.

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. Pupils 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.

1.) 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.

3.) Planning

(i) Foundation Stage

Children in the Foundation Year will undertake investigative and skills based tasks during independent working time. The Design and Technology area will be available to them on a daily basis and they will be encouraged to undertake focused practical tasks through directed and self-initiated stimuli. They will be provided with resources based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently. Children in the Foundation Stage work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the Foundation Stage Profile, especially Physical Development.

(ii) 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].

When designing and making, pupils should be taught 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 1 children will undertake one unit of work per term, at least. They will also have opportunities during Design and Technology lessons to develop their own ideas and generate designs independently.

Progression of Design and Technology skills will be monitored by staff formally and informally with references to expectations from the National Curriculum.

Planning will follow Medium term planning linked to National Curriculum guidelines.

(iii) 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].

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
- 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

4.) <u>Cooking and nutrition</u>

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:

(i) Key stage 1

Use the basic principles of a healthy and varied diet to prepare dishes

Understand where food comes from

(ii) Key stage 2

Understand and apply the principles of a healthy and varied diet

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

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

5.) <u>Assessment and record keeping</u>

The subject leader will keep a photographic portfolio of designs, drawings, pictures and finished products. These can be used for assessment purposes and for monitoring progression through year groups.

Displays of work done in design and technology will be put up around the school periodically. These will include drawings, patterns, quick models and final products to demonstrate to parents the whole and making process.

One staff meeting per term will be held for agreement trialling. Teachers will be asked to identify a child working at a specific level and bring some examples of their work. Examples of this work, including photographs, will be kept for the school portfolio.

6.) Resources

All resources for Foundation Stage are held within the Foundation Stage classrooms. Within Foundation Stage, the classroom has a Design and Technology area containing renewable and interchangeable resources including a selection of paper, plastics and metals. These resources will be renewed and replaced as appropriate, with consideration given to topics within all areas of learning across the Foundation Stage Profile. The outdoor classroom will contain opportunities for working on Design and Technology projects, including construction kits, sand and water. Resources will be made whenever possible linked to projects which are self-generated by the children within the Foundation Stage.

Resources for Key Stage 1 and 2 are held centrally

- A limited range of materials and tools will be provided for Key Stage 1 and 2 children within classrooms including: paper, card, reclaimed materials, textiles, square section wood, dowelling, wheels, construction kits, hole punches, snips, scissors.
- More specialist tools and equipment are kept in the main school storage cupboard.

7.) The Role of the Design and Technology Co-ordinator is to:

- Lead the development of design and technology in school
- Provide guidance to individual members of staff
- Keep up to date with local and national developments in design and technology and disseminate relevant information
- Review and monitor the success and progress of the planned units of work
- Order stock linked to the planned units of work at the end of each term
- Be responsible for the organisation and maintenance of design and technology resources
- Co-ordinate any display of design and technology work