Perton First School

DESIGN TECHNOLOGY POLICY



Intent:

We want our pupils to have big ambitions and high expectations of themselves. Our curriculum will enable children to share ideas, express their opinions and apply knowledge and skills learned in a wide range of meaningful contexts. Design and technology will inspire, pupils to practically explore and solve real and relevant problems within a variety of contexts. It will offer opportunities for all children to investigate, question, debate and challenge to enable all children to flourish, to be the very best they can be. Pupils will also learn to take risks, become resourceful, innovative, enterprising and capable citizens.

Implementation:

We have the National Curriculum and Early Years Curriculum as starting points which we enhance and deepen further as a school. Learning is organised into projects; at the heart of this is our children being exposed to high quality experiences and learning opportunities with a large element of choice and need for independent thinking. This area of our curriculum enables our children to turn their ideas into reality. We encourage and inspire individuals to work creatively through a structured and planned format that links to projects/topics. Throughout their experiences children will use a range of opportunities whereby they are offered a range of activities so that they can build or make for a purpose. They will select resources and make adaptations to their work through reflection and self/peer assessment techniques.

Impact:

From their different starting points our children will make good progress academically, emotionally, creatively, socially and physically. Knowledge, understanding and skills will be secured and embedded so that children attain highly and are fully prepared for the next stage of their learning journey. They will have strong communication skills and listen respectfully to the views of others. Children will take pride in all that they do, always striving to do their best and will demonstrate emotional resilience and the ability to persevere when they encounter challenge. Our children will develop a sense of self-awareness and become confident in their own abilities. We will be confident in making judgements of their own work and the work of others to develop existing ideas and reflect on our designs. High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. It enables children to follow the school ethos of Dream, Believe, and Achieve in a practical way.

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].

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 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, crosssectional 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.

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
- understand where food comes from.

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.

PROCEDURES

CURRICULUM PLANNING

We carry out the curriculum planning in design technology in two phases: long and medium-term. Our long-term plans identify the themes covered each term over an academic year. Because of the cross-curricular links between Design Technology and a lot of our subjects it has increasing demands for curriculum time, the subject is allocated to curriculum time on an alternating basis. The long term plans for Design Technology are established by our staff team and DT curriculum leader, this then is broken down into our medium term plans in further detail. All of the year group plans can be located in our Curriculum folder files in teams.

We plan the activities in design technology so that they build upon the prior learning of the children. While we give children of all abilities opportunity to develop their skills, knowledge and understanding, we also build planned progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

RESOURCES

Materials and tools for design technology are kept in the Art and Design store cupboard or in the Science and technology store cupboard. These store cupboards are only accessible to adults in school.

ASSESSMENT AND RECORDING

There will be opportunity throughout the year where children will use self and peer assessment to reflect and adapt ideas to designs and constructions. We also assess the children's work in Design and Technology whilst observing them working during lessons. Teachers assess the progress made by children against the learning objectives for their lessons. At the end of each academic year we make a judgement and record each child's progress against the National Curriculum levels of attainment and recorded on Insight. This information is used to plan future work as well as forming part of the annual report to parents.

HEALTH & 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.

Equal Opportunities and Inclusion

We ensure that the school meets the needs of all, taking account of gender, ethnicity, culture, religion, language, sexual orientation, age, ability, disability and social circumstances. It is important that in this school we meet the diverse needs of pupils to ensure inclusion for all and that all pupils are prepared for full participation in a multi-ethnic society.

Access to the Curriculum

All children have an entitlement to a broad and balanced curriculum, which is differentiated to enable children to understand the relevance and purpose of learning activities and experience levels of understanding and rates of progress that bring feelings of success and achievement. Teachers use a range of strategies to meet children's special educational needs. Lessons have clear learning objectives and staff differentiate work appropriately, and use assessment to inform the next stage of learning. All staff have received training on different teaching and learning styles and incorporate this into their lessons. We support children in a manner that acknowledges their entitlement to share the same learning experiences that their peers enjoy. Wherever possible, we do not withdraw children from the classroom situation. There are times though when, to maximise learning, we ask the children to work in small groups, or in a one-to-one situation outside the classroom.