



Our Vision for DT

“Creativity comes from looking for the unexpected and stepping outside your own experience” – Masaru Ibuka

At Gotham Primary School, we value the opportunities that Design and Technology presents.

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.

At Gotham Primary School, children are taught to select and use appropriate tools safely and effectively to make a product. In all areas of Design and Technology, the children are encouraged to consider the effectiveness of their designs and requirements of the product. Every child will have the opportunity to learn and extend their understanding, experience and application in the use of technology, including computing, in as wide a variety of situations as possible.

Design and Technology prepares children to deal with tomorrow's rapidly changing world. It encourages children to become innovative, creative problem solvers and thinkers as individuals and as part of a team. It enables them to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems. "Technology makes possibilities. Design makes solutions." John Maeda. Our aim is to provide fun and engaging DT lessons that build resilience, extend children's thinking and use the wider environment to support learning.

Our DT progression is taken from the National Curriculum and begins with a key concept or question. The scheme provides opportunities for children to build on prior knowledge and life skills as they progress through the school through recapping, building on key vocabulary and allowing them to develop their skills base further. We believe that pupils must firstly understand the key concept, be provided with opportunities to apply their knowledge and then be able to answer the key question by making and evaluating a final product.

Our approach to the teaching of DT reflects our school culture, one of metacognition and self-regulation. Through well planned sequences of lessons and learning experiences we want our children to gain an understanding that DT has changed our lives and that it is vital to the world's future prosperity.

Being the best we can be together!

Our mission Statement

National Curriculum for Design and Technology

Purpose of study

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, 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.

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.