

# **SUTTON CE VC PRIMARY SCHOOL**



## **Design Technology Policy January 2021**

"Design is a funny word. Some people think design means how it looks. But of course, if you look deeper, it's really how it works."

**Steve Jobs**

### **Curriculum Intent**

Design and Technology at Sutton Primary School prepares children to deal with tomorrow's rapidly changing world. It encourages children to become independent, creative problem solvers and thinkers as individuals and 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. Through the study of Design and Technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry. This allows them to reflect on and evaluate past and present technology, its uses and impacts.

At Sutton the progression of skills are provided in our long term plan:

[https://drive.google.com/file/d/1xSnNtM\\_aIHSdikqWN4YPLKvCLpUz\\_tNF/view?usp=sharing](https://drive.google.com/file/d/1xSnNtM_aIHSdikqWN4YPLKvCLpUz_tNF/view?usp=sharing). This is linked to the national curriculum attainment targets.

Design and technology is taught through three projects throughout the year which are linked to other curriculum areas where possible.

### **Curriculum Implementation**

Design and Technology teaching equates to approximately 12 hours every term. It is the teacher's responsibility to block this time. It may be taught as a discrete subject or cross-curricularly, through Topic. The teaching of Design Technology across the school follows the National Curriculum. Children design products with a purpose in mind and an intended user of the products. Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this. Design and technology is a crucial part of school life and learning and it is for this reason that as a school we are dedicated to the teaching and delivery of a high quality Design and Technology curriculum; through well planned and resourced projects and experiences.

It is an inspiring, rigorous and practical subject, requiring creativity, resourcefulness, and imagination. Pupils design and make products that solve real and relevant problems within a variety of contexts. It is very cross-curricular and draws upon subject knowledge and skills within Mathematics, Science, History, Computing and Art. Children learn to take risks, be reflective, innovative, enterprising and resilient. Through the evaluation of past and present technology they can reflect upon the impact of Design Technology on everyday life and the wider world.

### **Early Years Foundation Stage**

During the EYFS pupils explore and use a variety of media and materials through a combination of child initiated and adult directed activities. They have the opportunities to learn to:

- Use different media and materials to express their own ideas
- Use what they have learnt about media and materials in original ways, thinking about form, function and purpose
- Make plans and construct with a purpose in mind using a variety of resources
- Develop skills to use simple tools and techniques appropriately, effectively and safely
- Select appropriate resources for a product and adapt their work where necessary
- Cook and prepare food adhering to good health and hygiene routines

### **National Curriculum requirements at 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, (or 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.

### **National Curriculum requirements for food and Nutrition at KS1**

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:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

### **In Key Stage 2:**

Within key stage 2 key events and individuals that have influenced the world of Design Technology are teaching focuses that are to be covered.

The use of computer programmes and applications are also a key focus to be utilised by children in their design of their products.

### **National Curriculum requirements at 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, such as 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 as gears, pulleys, cams, levers and linkages)
- 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 programme, monitor and control their products.

National Curriculum requirements for food and nutrition at KS2

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:

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

#### **Curriculum Impact**

##### **Assessment**

Assessment of children's learning in Design Technology is an ongoing monitoring of children's understanding, knowledge and skills by the class teacher, throughout lessons. This assessment is then used to inform differentiation, support and challenge required by the children.

Summative assessment is conducted termly by class teachers across each year group of the school to inform the subject leader of progress or skills and knowledge still to be embedded. This is recorded on Pupil Asset.

Design Technology is also monitored by the subject leader throughout the year in the form of book monitoring, looking at outcomes and pupil interviews to discuss their learning and understanding and establish the impact of the teaching taking place.

EYFS pupils' progress and attainment is tracked using the Early Excellence Assessment tracker system, telling us whether each individual child is below expected, at expected or above expected attainment for their age.

##### **Health and Safety**

Class teachers and teaching assistants will check equipment before use to ensure it is safe to use, all damages will be reported and defective equipment will be taken away from children. Teachers use their professional judgement to determine if a formal risk assessment is required when carrying out activities. Any perceived hazards will be actioned appropriately. Safe practice must be promoted at all times.

**Equal Opportunities**

Equal Opportunities All pupils should have equal access to the design and technology curriculum irrespective of race, gender or ability. Examples of technology from other cultures can be a rich resource in the curriculum. Pupils with special needs should be considered when planning units of work and opportunities for differentiation should be considered for both more able and less able pupils.