



# Wibsey Primary School

## Policy for Design and Technology

### 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.

### Programme of study

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, leisure, culture, enterprise, industry, the local community and the wider environment].

### Foundation Stage

Design Technology in the Foundation Stage is taught under the umbrella of 'Expressive Arts and Design; Exploring and using Media and Materials' from the EYFS Development Matters. The children are supported to understand and talk about what happens to different media and materials when manipulated and to think about cause and effect. They are encouraged to talk about ways of finding out what they can do with different media and what happens when they put

different things together such as sand, paint and sawdust. They are also encouraged to notice changes in properties of media as they are transformed through becoming wet, dry, flaky or fixed. To achieve the Early Learning Goal, children will safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

## **Key Stage 1**

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 such as 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, such as levers, sliders, wheels and axles, in their products.

## **Key Stage 2**

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, such as gears, pulleys, cams, levers and linkages
- understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors
- apply their understanding of computing to programme, monitor and control their products.

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.

### **Key Stage 1**

Pupils should be taught to:

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

### **Key Stage 2**

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

## **Design Technology curriculum planning**

- Design Technology is a foundation subject in the National Curriculum. At Wibsey Primary School we use the National Curriculum as the basis for our curriculum planning in Design Technology.
- Long term plans map out themes covered in each half term. The Design Technology co-ordinator checks for progression, reviews the planning and monitors work produced from Design Technology lessons.
- 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 the opportunity to develop their knowledge, understanding and skill, 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.

## **Cross Curricular links in Design Technology**

### **English**

Design Technology contributes to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Children develop oracy by discussing plans and outcomes of their design work and presenting their products to the rest of the class during an evaluative process. They develop their writing ability by composing written plans, instructions, reviews and evaluations of their and others work.

### **Maths**

Design Technology teaching contributes to the teaching of number and measures in Maths. During the planning and making process, children must be able to read and conduct a range of measures in order to create their product.

### **Computing**

Design Technology contributes to the teaching of Computing as children are given opportunities to use computers for designing, recording and creating graphics which can enhance qualities of finished projects.

## **Inclusion**

### **Equal Opportunities**

Throughout the teaching of Design and Technology, there is commitment to:

- Equal opportunities for all children.
- An understanding of the importance of cultural values and beliefs when studying and designing products.

## **Differentiation**

The planned curriculum encourages all pupils to take a full and active part in Design and Technology irrespective of their ability. Through our Design Technology teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges with differentiated learning outcomes and responding to each child's different needs.

### **For our gifted and talented pupils we will expect:**

- Teachers to provide teaching and learning experiences that encourage pupils to think creatively, explore and develop ideas, and to try different experiences.
- Greater independence in working
- Provide real-life research and presentation opportunities, for example carrying out interviews with local people and using the results to inform design process.
- Provide opportunities for pupils to develop their skills in other areas, such as intrapersonal skills (for example, using initiative) and interpersonal skills (for example, leadership).

## **Assessment, Monitoring and Review**

Throughout their studies, children will;

- 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.

All staff will make Teacher Assessments against national curriculum statements to ensure progress and teachers will record the best fit level at the end of the year. The monitoring of the standards of children's work and the quality of the teaching in Design Technology is the responsibility of the Design Technology coordinator. This involves supporting colleagues in the teaching of Design Technology, evaluating strengths and weaknesses in the subject and indicating areas for further improvement.

Agreed by Governors	Full Governors	
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Chair of Committee		
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