

# Ellwood Community Primary School

Believe, Achieve, Belong



## Design and Technology Policy

### Ellwood Community Primary School's mission statement:

Designing and creating together to solve problems, building new skills now and for the ever-changing world of technology.

### Introduction

*'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.'*

National Curriculum in England 'Design and Technology' programme of study

(DfE Published 2013)

### Intent

At Ellwood Community Primary School, we provide all children with a broad and balanced curriculum which prepares them for life beyond primary education. We encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

Design and Technology is an inspiring, creative and practical subject. It can be found in many of the objects children use each day and is a part of children's immediate experiences. Design and Technology

encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. Our Design and Technology curriculum combines skills, knowledge, concepts and values to enable children to tackle real problems. It can improve analysis, problem solving, practical capability and evaluation skills. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. The children are encouraged to become innovators and risk-takers. High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The 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 changing 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.

## **Aims**

The 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 changing 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.

All pupils will be given equal access to the experience of design and technology activities regardless of the gender, race or disability.

We acknowledge that 'Design and Technology' will also contribute to children's personal, social, emotional and spiritual development.

## **EYFS**

In the EYFS the area of learning linked to Design and Technology consists of three aspects

### **Physical Development –**

ELG: Fine Motor Skills Children at the expected level of development will: - Hold a pencil effectively in preparation for fluent writing – using the tripod grip in almost all cases; - Use a range of small tools, including scissors, paint brushes and cutlery; - Begin to show accuracy and care when drawing.

### **Understanding the World –**

ELG: The Natural World Children at the expected level of development will: - Explore the natural world around them, making observations and drawing pictures of animals and plants; 15 - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class; - Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

### **Expressive Arts and Design –**

The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts.

ELG: Creating with Materials Children at the expected level of development will: - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used; - Make use of props and materials when role playing characters in narratives and stories.

## **National Curriculum**

It states that...

### **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 [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.

### **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 [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

At Ellwood Community Primary School the Statutory Guidance for the Foundation Stage and The National Curriculum for Design and Technology Programmes of Study underpin practice in Design and Technology.

## **Teaching and Learning Strategies**

Class Teachers are responsible for teaching and developing design and technology skills within their cross curricular themed planning. At Ellwood Community Primary School, we aim to

- Give children the opportunity to investigate and evaluate a range of familiar products, thinking about how they work, how they are used and the views of the people who use them
- Ensure children design and make assignments using a range of materials, including electrical and mechanical components, food, mouldable materials, stiff and flexible sheet materials, and textiles
- Develop clear links between design and technology and ICT
- Use a variety of approaches that are matched to the activity and the ability of the children
- Address the needs of SEN / MAT children in the planning of the programme
- Ensure that issues of Health and Safety are addressed in the planning and delivery of the design and technology curriculum
- Encourage the children's development of personal and social skills, be fully inclusive and give equal access for pupils to access learning
- Encourage children to work individually, in pairs, small groups and as whole class when required
- Ensure time is allowed for constructive conversation and discussion of initial ideas, comparing and evaluating

## **Skills**

At Ellwood Community Primary School children learn how to draw on a developing repertoire of skills and knowledge, which will include:

- Learning how to work independently and collaboratively
- Developing, planning and communicating ideas
- Working with tools, equipment, materials and components to make quality products
- Evaluating processes and products
- Developing knowledge and understanding of materials and components
- Learning the importance of health and safety

## **Health and Safety**

- At Ellwood Community Primary School children will be given suitable instruction on the operation of all equipment before being allowed to work with it
- Children should be strictly supervised in their use of equipment at all times
- Children should be taught to respect the equipment they are using and to keep it stored safely while not in use
- Children should be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions

### **Food Hygiene**

- Children and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food
- Children and staff working with food must wear aprons designated for cooking
- All jewellery should be removed and hair tied back

### **Glue Guns**

- Low temperature glue guns should only be used by an adult in Key Stage One and The Foundation Stage unless there is one-to-one supervision for a child
- Key Stage Two children should use low temperature glue guns under supervision in a designated work area, wearing safety goggles

### **Craft Knives**

- Craft knives, quick cutters and rotary cutters should only be used by an adult/teacher in Key Stage One and the Foundation Stage
- Key Stage Two children may use cutting equipment under supervision, using a cutting mat and wearing safety goggles

### **Sawing**

- Bench hooks and clamps must be used when sawing any material. Safety goggles must be worn and any loose items of clothing/hair must be tucked in.

## **Equal opportunities**

All children are provided with equal access to the Design and Technology curriculum. We aim to provide suitable learning opportunities for all children regardless of ethnicity, culture, religion, home language, family background, learning difficulties, disabilities, gender or ability.

## **Marking and Presentation**

Teachers will follow the school's marking policy when marking pupil's work. Presentation of pupil's work in Design and Technology should be in line with school expectations.

## **Assessment**

In the EYFS children are assessed throughout the year using the Early Years Outcomes/Development Matters age bands. At the end of the year they are assessed using the Foundation Stage Profile, as emerging, expected or exceeding in the Physical Development and Expressive Arts and Design Early Learning Goals. This information is reported to parents at the end of the Reception year.

In KS1 and KS2 pupils are assessed using the National Curriculum for Design and Technology. Teachers assess the children's progress in design and technology by making informal judgements whilst observing them working. Assessments are recorded on Insight Tracking.

## **Resources**

We have a wide range of resources to support the teaching of design and technology across the school, these are stored in the design and technology resource cupboard and the more specialised equipment on a designated trolley kept in the resource cupboard.

## **Role of the Co-ordinator**

- Produce the Design and Technology policy
- Produce the Design and Technology development plan with realistic and developmental targets
- Monitor Design and Technology within the school e.g. through curriculum walks, book looks
- Keep up to date with new developments and inform staff
- Encourage other members of staff in their Design and Technology teaching and give support where appropriate
- Ensure that Design and Technology resources are available and appropriate to the needs of the staff
- Keep a portfolio for Design and Technology that will include photographs of children at work, curriculum walk reports, examples of planning and examples of children's work
- Audit resources regularly and take overall responsibility for equipment and resources

## **Monitoring and Evaluation**

The Design and Technology Coordinator, alongside the Senior Management Team, is responsible for monitoring curriculum implementation through planning sampling, lesson observations, monitoring of design and technology, pupil conferencing, staff meetings and resource audits.

## **Review**

The Design and Technology Policy will be reflected in our practice.  
The policy will be reviewed in March 2023.