

# Great Bardfield Primary School



## Design and Technology Policy

*‘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 2014**

<b>Approved by:</b>	Elizabeth Crow (Headteacher)
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# **Great Bardfield Primary School Policy for Design and Technology**

## **Intent:**

At Great Bardfield Primary School, we believe that high-quality Design and Technology lessons will engage and inspire children to think innovatively and develop creative procedural understanding. Our aims are to: fulfil the requirements of the National Curriculum for Design and Technology, provide a broad and balanced curriculum, ensure the progressive development of knowledge and skills, to learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens through evaluation of past and present design and technology, develop a critical understanding of its impact on daily life and the wider world, to participate successfully in an increasingly technological world using the language of design and technology.

The aims of teaching Design and Technology in our school are:

- Develop creative, technical and imaginative thinking in children and to develop confidence to participate successfully in an increasingly technological world.
- Enable children to talk about how things work and to develop their technical knowledge,
- Apply a growing body of knowledge, understanding and skills in order to design and make prototypes and products for a wide range of users,
- Encourage children to select appropriate tools and techniques when making a product, whilst following safe procedures,
- Develop an understanding of technological processes and products, their manufacture and their contribution to our society,
- Foster enjoyment, satisfaction and purpose in designing and making things,
- Critique, evaluate and test their ideas and products, and the work of others,
- Understand and apply the principles of nutrition and to learn how to cook,
- Understand how key events and individuals in design and technology have helped shape the world.

## **Implementation:**

As part of the planning process, teachers need to plan the following:

- A medium-term plan which outlines knowledge and skills to allow our pupils not only to build subject knowledge and understanding but become increasingly adept at critical thinking, specialised vocabulary and their grasp of subject concepts, through child led learning.
- A cycle of lessons for each subject, which carefully plans for progression and depth allowing for child-centred learning involving interactive and practical opportunities for pupils to work independently, in pairs and also in groups to provide them with sufficient time and space for the children to build their knowledge to the point where they can answer the initial enquiry question;
- Mastery and challenge questions for pupils to apply and deepen their learning in a philosophical/open manner;
- Trips and visiting experts who will enhance the learning experience;
- Opportunities to showcase their work using a variety of presentation styles.

## **SEND**

Children with SEND are taught within the lessons where support is given as required. Additional support staff may withdraw small groups or individuals to adapt the learning to allow for child-specific needs.

## **Cross Curricular Links**

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Design and Technology is taught through a topic approach alongside Art, History and Geography. Our Creative Curriculum is carefully planned to engage and excite all our learners. The activities in design and technology build upon the prior learning of the children. Children in their designing and making will apply knowledge and skills of: textiles, food, mechanisms and structures. Electrical control is included at key stage 2. Whilst we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we have in place a skills continuum which ensures continuity and progression so that there is an increasing challenge for the children as they move up through the school.

As well as making its own distinctive contribution to the school curriculum, Design and Technology contributes to the wider aims of primary education by making links between all areas of learning.

## Activities

- Activities in which children investigate and evaluate products (IEs) – this means that children will examine and test the products of others (either commercial or of their fellow classmates) to make judgments about the quality or the methods by which it was produced.
- Focused practical tasks in which children practise particular skills (FPTs) - this means that children are set tasks which enable them to practise a particular skill. This should not be undertaken in isolation, children can still produce an object even though the main aim is skill development. E.g. Children produce a Christmas card but the main intention was to provide an opportunity for children to practise folding card accurately and in using adhesive for small-scale work.
- Assignments in which children design and make products (DMAs) - this means that children are set a design task or brief from which there will be a variety of outcomes, i.e. an open ended task. Younger children can be set design tasks in which the teacher has specified the outcome but the children should be provided with some individual choice or decisions. Older children can work on a task in which the teacher has not given any indication of what the outcome might be, but assistance/feedback is given on an individual basis in response to their own design.
- In practice these three types of capability will not be tackled in isolation. They often form an integrated whole within a topic or area of study. Individual activities can also be a valid part of the curriculum, such as a pure design task which the children will not actually construct.

## Resources

Whole school resources are stored in the resource in the Art/DT cupboard. All classrooms have a regularly updated Topic Wall that reflects the topic being taught. Classroom resources are clearly labelled and easily accessible to children.

## Impact:

Within Design and Technology, we strive to prepare children to take part in the development of tomorrow's rapidly changing world. We aim to encourage children to become creative problem-solvers, both as individuals and as part of a team. Through the study of design and technology, children combine practical skills with an understanding of aesthetic, social and environmental issues, as well as of functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impact. Our Design and Technology curriculum is high quality, well thought out and is planned to demonstrate progression. We focus on progression of knowledge and skills and discreet vocabulary progression also form part of the units of work.

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We measure the impact of our curriculum through the following methods:

- Interaction with pupils during discussions and related questioning
- Day to day observations
- A celebration of learning in the form of displays
- Pupil discussions about their learning (pupil voice); which includes discussion of their thoughts, ideas, processing and evaluations of work.
- Moderation staff meetings where pupil's books are scrutinised and there is the opportunity for a dialogue between teachers to understand their class's work.
- The outcomes of learning serve to inform the teacher's developing picture of the knowledge and understanding of each pupil and to plan future learning accordingly.

At the end of each year we make a summative judgement about the achievement of each pupil against the subject learning goals for design and technology in that year. At this point we decide upon a 'best fit' judgement as to whether the pupil has achieved and embedded the expected learning goals, exceeded expectations or is still working towards the goals.

## **Role of the Design and Technology Leader**

- To take the lead in policy development.
- To support colleagues in the delivery of the Design and Technology curriculum
- To monitor progress in Design and Technology – eg leading staff CPD, scrutiny of work, analysis of assessment data.
- To take responsibility for the choice, purchase and organisation of central resources for Design and Technology, in consultation with colleagues.
- To be familiar with current thinking concerning the teaching of Design and Technology, and to disseminate information to colleagues.
- The leader will be responsible to the Headteacher and will liaise with the named link Governor.

## **Monitoring and Evaluation**

The subject leader monitors and evaluates the quality and standard of Design and Technology throughout the school and supports teachers to develop their practice. In practice, this includes learning walks, dropping into Design and Technology sessions, book looks and discussions with both pupils and staff. Opportunities for teachers to review the scheme, policies and other support materials are given during staff meetings. Leaders are provided with an additional three planning days per year in addition to their PPA, to plan their curriculum.

Other relevant documents:

- Marking and feedback policy
- Homework policy
- Early Years Foundation Stage policy
- Assessment policy
- Design and Technology Skills progression
- Design and Technology Long Term Plan
- SEND policy
- Educational visits policy
- Health and Safety policy

This policy also should be read alongside the National Curriculum in England (published September 2014) and other documents from the Standards and Testing Agency.

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## **Subject Content**

### **Early Years Foundation Stage**

Pupils should be given opportunities to:

#### **Listening, Attention and Understanding**

- Can make comments about what they have heard and ask questions to clarify their understanding.

#### **Speaking**

- Offer explanations for why things might happen, making use of recently introduced vocabulary.

#### **Fine Motor Skills**

- Hold a pencil effectively.
- Beginning to show accuracy and care when drawing.
- Use a range of small tools, including scissors, paint brushes and cutlery.

#### **Creating with Materials**

- Draw and paint using a range of materials, tools and techniques, experimenting with colour, design, texture, form and function
- Share their creations, explaining the process they have used

### **Key Stage 1**

Pupils should be given opportunities to:

#### **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

#### **Use 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

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## **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**

Great Bardfield School is a healthy eating school and the children are encouraged to make healthy eating choices both in and out of school. 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. Cooking in class and also visiting farms and supermarkets on educational visits will also help to develop a greater understanding of food and its origins.

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.

## **Health and Safety**

The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene. We teach children safe handling of tools and equipment. Electrical equipment and knives should only be used under close supervision of the teacher or responsible adult together with the following tools, in general design and technology use: glue guns, drills, craft knives, saws and hammers. When working with tools, equipment, materials in practical activities pupils should be taught about hazards and risks and about risk control. This includes how to recognise hazards, assess subsequent risks and take steps to control risks.