

## **1. Curriculum Statement**

### **Intent**

Design and Technology at Thornaby Church of England is an inspiring, rigorous and practical subject. 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. Children acquire a broad range of subject knowledge and are able to apply cross-curricular skills from mathematics, science, engineering, computing and art breaking through the barriers of stereotypes. Children are encouraged to become innovators and risk-takers, building resilience as they work as both individuals and members of a team. They are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness.

### **Implementation**

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in an iterative process of designing and making. The children work in a range of relevant contexts (for example home, school, leisure, culture, enterprise, industry and the wider environment). When designing and making, the children are 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 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 help 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
- understand and use electrical systems in their products
- apply their understanding of computing to program, monitor and control their products

Design and Technology is taught through the Cornerstones curriculum, ensuring that there is always a context for the children's work. Key knowledge and key skills for Design and Technology have been mapped across the school to ensure progression between year groups.

### **Impact**

We ensure the children

- 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 and 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.

Children will design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child. Children 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.

### **2. Teaching and Learning**

Design and Technology will engage the children in a broad range of designing and making activities which involve a variety of methods of communication; speaking, designing, drawing, assembling, making, writing and using computer technology. Projects are taught within the Cornerstones curriculum, providing a context for their learning. Topics have been selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each Key Stage. All children should have a breadth and balance of experience.

### **3. Assessment**

Formative assessments are carried out and used to clarify learning and adapt teaching. These are done through mini plenaries and 'live' individual feedback as pupils work, by teachers and teaching assistants. Peer to peer feedback, discussion and reflection is used regularly as an essential part of learning. The Express stage of topic allows for the children to demonstrate their learning from the topic. Assessment activities are varied and can be a piece of writing, a quiz, a piece of practical work or a presentation. Teachers may use evidence from discussions, models or written work to assess attainment. Photographic evidence of products is stuck in books. Objective sheets are used at the beginning and end of each topic to assess prior knowledge and learnt knowledge. The children have the opportunity to reflect on their learning/self-assess at the end of the topic identifying what they have learnt throughout the topic.

Following the completion of these summative assessments a judgement is made as to whether pupils are working below at or above the expected level. These are recorded on a whole school foundation assessment tracker. This enables subject leaders to easily monitor the work produced across school. When a pupil reaches the end of a key stage a formal judgement is made using the same criteria.

Displays within the classroom and hall areas will reflect a range of work across key stages, to celebrate and exhibit the work of children, of all abilities.

### **4. Planning & Resources**

Cornerstones planning is kept on the shared drive and adapted according to the needs of the children. Teachers will either select materials needed to complete a DT project from the DT Resource area, purchase any materials needed for the design, construction and evaluation of a project or decide to use recycled materials or junk modelling to help complete a project. Children are taught to use tools and equipment in a sensible, safe and efficient manner.

### **5. Early Years Foundation Stage**

The staff team will plan for children to experience creative opportunities and develop key skills and techniques within the EYFS curriculum. There will be a focus on developing fine motor skills and learning how to plan, design and produce the finished project.

## **6. Key Stage One & Key Stage Two**

Teachers will plan for lessons so that children will learn to design purposeful, functional, appealing products for themselves, and others based on design criteria and to communicate their ideas through talking and drawing. They learn to select from and use a range of tools and equipment to perform practical tasks and to choose from a wide range of materials and components. They also learn to explore and evaluate their design and product.

## **7. Special Educational Needs**

Planning for pupils with SEND is part of the planning process that we do for all pupils at Thornaby Church of England School. Removing barriers for pupils with SEND ensures that all children can learn and progress in ways that are personalised to them but to also ensure they have access to a broad and balanced curriculum.

We strive hard to meet the needs of those pupils with special education needs and take reasonable steps to achieve this. To ensure our SEND children learn more effectively, it may be appropriate to plan smaller steps for them to achieve the learning goal, adapt the task through differentiation, alter the materials (such as less on the page, enlarged font, simple language etc), use a range of teaching styles or provide additional resources, materials or equipment. The modifications we make to each lesson depends on the SEND needs of the children and the intended learning outcome.

The SENCO is available to support staff with advice concerning any aspect of special educational needs including the provision or adaptations that need to be in place for SEND children.