

## **Design and Technology Curriculum Statement 2021**

### **1. Curriculum Intent**

The Design and Technology curriculum at Gearies aims to motivate and inspire pupils to create and design products that solve real and relevant problems or criteria within the wider world. Early on, there is an emphasis on examining existing products and markets and then implementing this into their design process. Design and Technology at Gearies Primary School focuses heavily on the process of designing a product and structural components, opposed to just the final product. This ethos begins in KS1 and continues throughout their Design and Technology education into KS2. All teachers are encouraged, to plan and teach at least three DT projects that fulfil the main strands of Design and Technology: Food Technology/nutrition, textiles and woodwork. These topics have cross-curricular links with their other topic learning and is one example of how DT is supported as a part of the broad and balanced curriculum at Gearies.

When children enter EYFS, Design and Technology takes place regularly; there are many occasions for carrying out D&T-related activities in all ranges of learning in the EYFS. Specifically, 'Designing and Making' is labelled as a strand within Knowledge and Understanding of the World.

In Key Stage 1, the process is explored in depth and children apply their own likes/dislikes and wants/needs to the designing process. The children will extend on their 'Knowledge and Understanding of the World' by working in a range of relevant contexts such as the home and school, gardens and playgrounds, the local community, industry and the wider environment. For example, the children in Year 2 designed and constructed toy cars and tested them and evaluated them in different environments. Children are taught the importance of 'purpose' with the National Curriculum stating that they should be able to 'design purposeful, functional, appealing products for themselves and other users based on design criteria'. In KS1 children are encouraged to experiment and explore, making their own choices and then evaluate and justify them. There is also a strong emphasis on KS1/early year's children building upon and improving a valuable skillset, such as cutting, gluing, fixing, chopping etc, which will then strongly enhance their learning in KS2.

In KS2, the importance of making links to the wider world remains. Through an assortment of creative and practical activities, pupils are being taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. In KS2, children are encouraged to stretch their current understanding and are challenged to create complex structures as well as using a range of tools. The children are encouraged to build on their technical knowledge and this is promoted in classrooms throughout our teaching. In upper KS2, there is a focus on computing to allow children to manipulate their designs and products. We continue the importance of evaluation and extend this by asking them to problem solve and improve their original idea.

The Design and Technology curriculum is evident throughout our school. As the National Curriculum encourages, we help the children gain knowledge and skills, apply creativity and individuality to create products to help with their associations in the real world.

### **2. Curriculum enhancement**

To support Design and Technology learning and awaken the children's curiosity, many extra activities and events are planned to extend DT learning. Trips are planned, such as to stores and toy museums. We also have also previously held successful Design and Technology exhibitions, showcasing not only the children's final products but more importantly, the process in which they got there.

### **3. The curriculum implementation**

Design and Technology is taught in half-termly or termly blocks in the afternoons in KS1 and 2. In EYFS, it is embedded into 'Designing and Making' in the unit 'Understanding the World'.

#### **4. Impact of curriculum on our children**

The Design Technology curriculum at Gearies promotes the subject as an inquisitive, necessary, fun, experimental and practical part of our children's learning. It allows the children to gain creative and practical skills whilst create an enjoyment for the subject which allow them to make important links to the real world.

#### **5. Programme of study**

At Gearies there is no specific programme of study in Design and Technology. Cross-curricular links are made to ensure DT is kept fresh and inviting and accessible for all children. For example, in English when writing instructions the children's focus maybe to write them for something they can create or make within their D.T. lessons. Teachers have the assessments and national curriculum in mind when planning and all Design Technology lessons are planned to include the information listed below. All lessons are planned into blocks falling into categories of food/nutrition, textiles and woodwork. All three of these are taught within a project at least once a year. This allows the children to see Design and Technology in a real life lens and how it can affect our lives.

Taken from the national curriculum:

'KS1:

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.

KS2:

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.'

#### **6. Assessment arrangements**

Assesments are carried out termly and are referred to during and after a Design Technology unit has taken place. Teacher judgement is based on several factors, including project/book work, final products, ability to problem solve, evaluation of their own learning and conversations with pupils.