Design Technology

Our Intent Statement:

At Great Finborough Primary School, Design and Technology is regarded as a key area of the curriculum and one which underpins the development of creativity and the practical exploration of designing and making products.

It is our aim to teach the pupils the key knowledge, understanding and skills required to be successful as designers. These skills will be taught progressively as they move on their journey of learning through the school, ensuring they are fully able to access their next stage of learning and to develop personal interests and passions within the subject.

They will be given opportunities to develop these and combine them with knowledge and skills from other subjects, particularly Maths, Science, Computing and Art.

Using themed projects will captivate the interests of the children, nurture their creativity and allow them to innovate, ultimately allowing them to develop the technical knowledge to design, make and evaluate functional and appealing products for a particular purpose and user.

A key factor in the design process is bringing context and relevance to real life and therefore, meaning to learning.

It is our intent to ensure our children are provided with the necessary opportunities to gain the relevant knowledge, understanding and life skills needed to prepare them for today's 'design and make' world in which we all work and live.

Our Implementation Statement:

Curriculum

Where does our Design Technology curriculum come from and why?

Our Design and Technology curriculum is shaped by the National Curriculum and is delivered in short focused blocks based on the Design and Technology Association's national scheme of work 'Projects on a Page' for Key Stage 1 and 2.

We selected this scheme of work as it is from a respected source and provides a clear curriculum structure, planning, innovating and interesting projects. It also has the instant CPD to help upskill and support our teaching and support staff in delivering a high quality Design Technology curriculum for our children.

The benefits of this scheme of work include more flexibility and less prescription, enabling greater choice by teachers and children in the products they design and make. Context-free project themes rather than prescribed thematic topics and products enable closer curricular-links to be formed and developed while enhancing the development of key skills, knowledge and understanding. Each project emphasises the essentials of good practice, ensuring that our children receive a genuine and beneficial Design and Technology experience. The clear project planners identify 20 key elements to support planning, delivery and, ultimately, learning. The instant CPD aspect of the projects and tips for teachers helps staff delivering the curriculum to quickly understand and visualise key skills and techniques. It is suitable for the structure of the school as it supports delivery to both single year groups and, importantly for us as a small village school, mixed aged classes when required.

Building on their learning in the Early Years Foundation Stage, the children in Key Stage 1 will learn about mechanisms (sliders and levers), structures (free standing), mechanisms (wheels and axles), textiles (templates and joining techniques) and food (preparing fruit and vegetables).

During Lower Key Stage 2, the children will learn about mechanical systems (levers and linkages), mechanical systems (pneumatics), structures (shell structures using computer aided design), electrical systems (simple programming and control), textiles (2D shape to 3D product), structures (shell structures), electrical systems (simple circuits and switches) and food (healthy & varied diet).

During their time in Upper Key Stage 2, the children will learn about textiles (combining different fabric shapes), structures (frame structures), electrical systems (more complex switches and circuits), mechanical systems (pulleys and gears), mechanical systems (cams), textiles (using computer aided design in textiles), electrical systems (monitoring and control) and food (culture and seasonality).

We teach clear and appropriately sequenced skills and knowledge through progression. This ensures children's knowledge and skills are extended and broadened each year.

What key elements structure our planning and delivery of lessons?

When planning and providing learning opportunities, we use the six essentials of good practice in Design and Technology which are an awareness of the user, purpose, functionality, design decisions, innovation and authenticity.

When planning and delivering a project, we refer to the school's curriculum map and identify a clear aspect and focus from the DT curriculum.

Getting Started:

We initially share with the children the aspect and focus of Design Technology we are going to learn about.

Where appropriate, we begin to encourage the children to make links between the aspect and focus being studied and their previous learning and lessons, and to consider the skills, knowledge and understanding that they have developed in earlier studies and in their own personal life experiences.

Investigating:

We identify existing familiar products that fit the focus and aspect of the Design Curriculum project being studied, also paying attention to the intended users and purpose of the products.

The children are provided with time to research, explore and investigate a range of products of a similar nature that could be made in our new project.

Key considerations during this period of time are identifying the main functions, features and purpose of the products, the materials they are made from, including considering the pros and cons of using those materials, alongside discovering how the products are made.

This part of the process may include playing with, exploring and deconstructing existing products to see how they are made.

We then make collective decisions about which product(s) may be most suitable to make from the resources available to us before beginning the second phase of investigation where we repeat the above process but with a clearer outcome of where our project is now heading.

Techniques:

At this point in the project, we discuss skills, techniques, knowledge and understanding from previous projects and lessons and identify which ones may be most appropriate and beneficial to our new project.

We then introduce and teach the children a variety of new skills, techniques, knowledge and understanding relating to this topic. These are known as focused tasks.

Designing:

Having completed our investigation work and learned and practised our new skills, techniques, knowledge and understanding, we move on to the design stage of our project.

We support the children in developing a 'Project Title' and 'Design Brief' for their own product which includes identifying the intended user and the purpose the product is being designed to fulfil.

The children are supported and provided with time to discuss, draw and make mock ups of their ideas, paying particular attention to the tools, materials, skills and techniques taught earlier in the project that they will need to use.

After evaluating their initial designs, plans and mock ups, the children are supported in making choices relating to their final product and, if appropriate, making a prototype and selecting the resources and techniques needed to make their product.

Making:

The children then apply their skills, techniques, knowledge and understanding to making their

product.

Evaluating:

Once the product is complete, the children will be taught how to evaluate the success and weaknesses of their project and how well these reflect the design brief given.

The children are also encouraged to evaluate the products of others, explaining the reasons for their views and scoring.

Recording of Pupils' Work:

The children are provided with a red and black Design Technology Portfolio book.

Our Impact Statement:

By the time our children leave Great Finborough Primary School, they will have learnt how to develop and apply their knowledge and skills in the fundamental areas of Design and Technology.

Our pupils will:

- be able to work collaboratively, constructively and productively with others.
- be able to investigate, research and ask questions in order to identify the user's needs and requirements.
- be able to identify the key features of the product.
- have the ability to be creative in order to design a product which fits the needs of its target audience.

- have the ability to be resourceful and think carefully about using suitable, sustainable and ethically resourced materials.
- have the knowledge, skills and understanding to use the appropriate tools, equipment and materials to make their products and show good safe working practices.
- have the ability to self-evaluate their designs, skills and products in order to learn and improve their skills and knowledge.
- have developed core life skills and knowledge.

Ultimately, we want our children to develop a love and passion for Design Technology and be ready to embrace the next stage of their learning in the subject.