

North Somercotes CE Primary School



Design and Technology Policy

“The role of the designer is that of a good, thoughtful host anticipating the needs of his guests.”

– Charles Eames

“To design is much more than simply to assemble, to order, or even to edit: it is to add value and meaning, to illuminate, to simplify, to clarify, to modify, to dignify, to dramatize, to persuade, and perhaps even to amuse. To design is to transform prose into poetry.” – Paul Rand

What is Design and Technology?

Our definition for EYFS and KS1: Design and Technology is learning about how things work and designing and making our own models and food.

Our definition for KS2: Applying technical knowledge to design, make and evaluate products including food.

Design and Technology is about providing our children with opportunities to design and make using a range of skills whilst gaining an understanding of the designed world around them.

Design and Technology is a unique subject, which enables the application of cross-curricular skills, to be applied in a creative and real world context making learning more accessible and more engaging for our children.

School Context

Children in our school have limited experiences to gain the practical skills needed in Design and Technology. Many of the children do not have the resources or support at home to explore a range of materials and the skills needed to manipulate those materials such as cutting, sewing and cookery. Due to the geographical position of our school community and the high number of pupil premium families, children do not have the opportunity to visit museums and settings where they can explore design and the history of design.

Intention:

Through our DT curriculum we aim to widen our children’s knowledge, skills and understanding of the wider world through the application of design and technology. We will shine a light on how design and technology surrounds us and we would like our children to recognise and think about design and technology within and beyond their own familiar surroundings.

Our ambition is for our children to be able to confidently appraise other people’s designs, share their opinions and reflect on this information, using it to inform their own design and technology projects including high quality prototypes and products. Through exploring a variety of contexts and problems we aim for our children to develop a curiosity and resilience to evaluate and suggest alternative methods to their own work and the work of others.

Through exploring real world technology we aim to inspire our children to consider potential careers in the field of technology as well as develop the necessary skills they will need to participate with success in today's increasingly technological world. We will shine a light on the range of practical, technical and creative skills, which our children may not previously have opportunities to explore including cookery and nutrition.

Implementation:

Where appropriate, children will be exposed to a variety of resources such as construction materials, textiles and ingredients.

Design and Technology displays should be engaging and include key facts and knowledge that is related to the topic, including work created by the children. Relevant and key age-related vocabulary should be displayed and referred to throughout the topic.

Our DT subject leaders have created a bespoke curriculum to meet the needs of our children. This includes a clear **Yearly Overview of concepts, skills, knowledge and vocabulary** and an extensive **Planning and Progression document** – all closely matched with National Curriculum requirements. From this **custom made Unit Plans** have been created for each year group in the most part linked to our whole school theme for each term. We aim to shine a light on the wonders of Design and Technology.

Roles and Responsibilities

Subject Leaders

The DT subject leaders monitor the way their subject is being taught throughout the school by:

- Planning scrutiny
- Work scrutiny
- Learning walks
- Pupil voice
- Lesson observations
- Teacher interviews

The DT subject leaders have the responsibility for monitoring the way in which resources and materials are stored and managed.

Teaching Staff

Other staff will ensure that the school curriculum is implemented in the accordance with this policy. Staff will ensure there are using the correct vocabulary for their year group. They will be confident with their subject knowledge and are aware of the expectations of key end points for previous/next year groups and end of key stage.

Organisation and Planning

How do we teach?

Throughout our Design and Technology curriculum the children work through the process of researching products, planning and designing, making products whilst developing a range of technical skills, and evaluating. In today's society, it is important to develop enquiring minds and to

develop the skill of investigating how things are made and how they work and to use these skills to be able to make informed planning choices based on critical evaluations of existing products.

Children will be encouraged to ask their own questions and develop their own line of enquiry, investigation and plans. There will be time planned in to lessons for the children to research past, present and potential future technology that will aid them with their designs. DT lessons will incorporate the teaching of discrete skills so that children are able to use a wide range of tools and equipment correctly, safely and confidently and to develop an understanding of which tools are fit for which purpose. Each year group have the opportunity to build on their previous skills and knowledge to and are able to create a range of different products including a variety of food products in our cookery classroom.

The skills learned in DT also help with learning across the curriculum. Knowledge about the properties of materials helps in science and the practice of measuring accurately helps in maths. These skills help in computing through the children's use of computer control and, naturally, in art and design. Design and Technology education helps develop children's skills through collaborative working and problem solving, and knowledge in design, materials, structures, mechanisms and electrical control. Children are given opportunities to work independently as well as part of a team. They are encouraged to be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise as they progress through the school.

In **Foundation Stage** Design and Technology skills are addressed through the Expressive Arts and Design and Physical Development Early Learning Goals. These form the foundations for Key Stage 1.

Children will:

- Use a range of small tools, including scissors, paintbrushes and cutlery.
- 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.

In **Key Stage 1** DT continues the understanding begun in Foundation stage.

Children will:

- 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
- 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
- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria
- 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.
- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

In **Key Stage 2** children expand their knowledge and dig deeper.

Children will:

- 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
- 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
- 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.
- 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.

Inclusion

The school's DT curriculum, lessons and materials will support equality of opportunity and an inclusive attitude to all learners. We will ensure that children are provided with a broad and balanced curriculum.

All pupils will have equal opportunity to reach their full potential across the DT curriculum regardless of their race, gender, cultural background or ability. Class teachers will be responsible for planning activities that are differentiated and suitably challenging to meet the needs of all children.

We will ensure our Bottom 20% readers are able to fully access all aspects of the DT curriculum through adapting of resources, additional adult support and other means of quality first teaching support.

Further information can be found in our SEND Policy

Impact:

The teaching of Design and Technology is an important part of our school environment. Through the concepts we teach, the processes of evaluating existing products and designing and making products of their own, our children are able to gain an understanding of the world around them whilst developing the confidence to express their own ideas. Through critical analysis of their own products made, our children become resilient learners, recognising and accepting where improvements can be made and having the confidence to give things another go.

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