Design and Technology Policy

Approved by:	Headmaster: D Skelcher	**Date:**	September 2021
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1. Curriculum Statement

Intent

Design and Technology is an inspiring, relevant and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At Quinton Primary School, we encourage children to use their creativity, knowledge 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. We aim to, wherever possible, link work to other disciplines such as humanities, mathematics, science, engineering, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.

Implementation

Through a variety of creative and practical activities, which will be taught by one teacher across the school, the children will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. We will use the Design and Technology Association's 'Projects on a Page' to begin the planning phase of each unit taught. 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 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
- Understand and use electrical systems in their products
- Apply their understanding of computing to program, monitor and control their products

Cooking and nutrition

Pupils should be taught how to cook and apply the principles of nutrition and healthy eating.

Key skills and key knowledge for Design and Technology have been mapped across the school to ensure progression between year groups. This also ensures that there is a context for the children's work in Design and Technology; that they learn about real life structures and the purpose of specific examples, as well as developing their skills throughout the programme of study.

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. We have used the Design and Technology Association's 'Projects on a Page' to guide how the D&T projects are planned out on the long term D&T provision map. Projects are taught in themed blocks by one teacher across the school, which allows for more effective learning in which the teacher can focus on developing the children's D&T skills, allowing children to develop their ideas and techniques. Units of work have been selected and planned to ensure a balance of materials, skills, knowledge and understanding throughout each Key Stage. Units of work are planned to include designing and making assignments (DMAs) supported by focused practical tasks or skills teaching (FPTs) and work involving reviewing existing products (IDEAs). All children should have a breadth and balance of experience. Design and technology lessons are mainly taught as a block so that children's learning is focused throughout each unit of work.

3) **Assessment**

Children's skills will be assessed and developed by the teacher during lessons and through critical discussion at the end of each unit. Formal assessment is recorded at the end of each unit and monitored. Displays within the school will reflect a range of work across key stages, to celebrate and exhibit the work of children, of all abilities.

4) **Planning and Resources**

On-line DT plans and resources, produced by the Design and Technology Association, that have been edited and personalised for our school curriculum, are available on the shared drive. Teachers also design schemes of work to support specific bespoke projects. Teachers will select materials needed to complete a DT project from the DT Resource area to help complete a project. Children are taught to use tools and equipment in a sensible, safe and efficient manner.

5) **Organisation**

Design and Technology planning is mapped in blocks on the Whole School Curriculum Overview. Units of work are planned to include a balance of designing and making assignments (DMAs), teaching key skills (FPTs) and work involving reviewing existing products (IDEAs). Links with other subject areas may be made where appropriate.

6) **EYFS**

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. Nursery and Reception classes will be, where appropriate, included in whole school projects, workshops, events and competitions associated with Design and Technology.

Early Years Foundation Stage (EYFS):

In the Revised Early Years Foundation Stage, Expressive Arts and Design (EAD) is broken down into two aspects:

1. **Exploring and Using Media and Materials**
   - Early Learning Goal: They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

2. **Being Imaginative**
   - Early Learning Goal: Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology.

7) **KS1 and KS2**

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.

8) **Equal Opportunities**

Whole school policy on equal opportunities will be adhered to in Design and Technology activities. Teachers ensure that children have access to the range of Design and Technology activities and use opportunities within Design and Technology to challenge stereotypes. Children are encouraged and supported to develop their Design and Technology capability using a range of materials. Children with special needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum.

9) **Inclusion**

All children will be supported through differentiation, adaptation or adult support, to enable equal access to learning in Design and Technology.

10) **Role of the Subject Leader**

The subject leader will monitor the teaching and learning of Design and Technology across the school; ensuring a high quality, broad and stimulating curriculum by:

- Termly book trawls
- Planning scrutiny
- Informal pupil interviews

To enable teachers to resource and teach effectively, the Subject Leader will be responsible for maintaining a range of good-quality materials and tools by ordering equipment and materials related to the Design and Technology curriculum. It is the responsibility of each class teacher to identify additional resource needs in relation to their project. Equipment and materials have been organised in the central store. This will be maintained by the Design and Technology co-ordinator supported by teaching assistants as required. Any shortages, breakages or losses should be reported immediately to the Design and Technology subject leader.

11) **Hygiene and Safety**

It is important that children are taught essential life skills to enable them to participate confidently and safely in designing and making in society. Teachers have a duty to introduce children to a wide variety of production processes and the correct tools for the task. Children must design considering health and safety issues and consequences and operate in a safe and hygienic manner when designing. The subject leader, if required, supports teachers to teach the skills necessary ensuring that children can design and make safely.

12) **Parents**

We encourage all parents and carers to support and assist (where applicable) with whole school events and Design and Technology projects.