

Curriculum Statement: Design & Technology

'Creativity is allowing yourself to make mistakes. Design is knowing which ones to keep.' Scott Adams

Whole-School Vision:

At Quest Primary School, we work collaboratively with The Collegiate Trust schools to deliver the shared vision of an **'exceptional education for all.'** We passionately believe that **'Learning Changes Lives'** and are determined that through our school values of **excellence, responsibility and aspiration**, all children will develop to their full potential during their time at Quest Primary.

We have identified the 5 strategies below which form the outline of our offer, to ensure every child receives excellent inclusive teaching as standard. Our teachers use these consistently in lessons and adapt the strategies to the needs of their own class and to individual pupils.

Whole-School Strategies to Support Inclusive Teaching & Learning

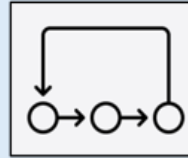
Explicit Instruction



Checking for Understanding



Repeated Exposure



Scaffolded Practice



Communication



Design & Technology Curriculum Vision:

At Quest Primary School, through our D&T curriculum, we want children to be inspired by engineers, designers, chefs, and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real-life purpose. We want the children to combine their designing and making skills with knowledge and understanding in order to design and make a product. We want children to be able to work collaboratively and problem solve on a shared project to reach an end goal. Children's interests are captured through themed learning, ensuring that links are made in a cross-curricular way, giving children motivation, and meaning for their learning.

At Quest Primary, our Design and Technology curriculum is intended to prepare children for the developing world. Pupils are guided to become creative problem-solvers, both as individuals and as part of a team. They will build and apply a repertoire of knowledge, understanding and skills. Our curriculum provides children with opportunities to research, represent their ideas, explore, and investigate, develop their ideas, make a product and evaluate their work. Evaluation is an integral part of the design process and allows children to adapt and improve their product, this is a key skill which they need throughout their lives. We feel that the teaching of food and nutrition is of great importance and holds great relevance in current times. Instilling a love of cooking in pupils will also open the door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

At Quest Primary School, we recognise that for our pupils to aspire and be successful academically and in the wider areas of their lives, they need to be given rich and sustained opportunities to develop their cultural capital. Analysis and discussion about our pupils' backgrounds, life experiences and culture has helped us to design a curriculum which places our school values at the heart of our curriculum.

The Quest Primary Values, as realised through our Curriculum

Excellence	Responsibility	Aspiration
<p>Our curriculum is designed to promote excellence in all that we do and learn. Our high expectations of what every child can achieve, ensure that children are given opportunities throughout the planned curriculum, to achieve excellence in their subject knowledge and skills, so that they are ready to move on to the next stage of their learning. Excellence is valued, promoted and celebrated every day at Quest Primary and can be seen in our learning, behaviours and attitudes to all we do.</p>	<p>Our curriculum promotes children developing as responsible learners, taking responsibility for their own learning through their behaviour and actions, as well as supporting the learning of others. Subject curriculums promote how to take responsibility for our physical and mental health, as well as online safety and support our children to be well-rounded individuals and a school community, who understand the impact their words and actions have on others, and their own futures.</p>	<p>Our curriculum is aspirational for all our children, including those with SEND and from disadvantaged backgrounds. It is our intent that all children leave Quest Primary well-prepared for the next stage in their academic careers and with the knowledge and skills required to ensure they can partake successfully in the world around them. Our curriculum supports them to become confident, respectful and well-informed young citizens who believe they can achieve their dreams.</p>

Intent, Implementation and Impact in Design & Technology

Intent (What will take place before teaching in the classroom? What do we want our children to know and be able to do?)	Implementation (What will this look like in the classroom?)	Evidence of Curriculum Impact (How will this be measured?)
<ul style="list-style-type: none"> The DT curriculum coverage is organised so that children encounter each of the five strands (Food, Nutrition and Cookery, Materials and Textiles, Mechanisms, Structures and Construction, Electrical Systems) in each key stage, including EYFS, and are able to revisit, build on and extend their previous learning and skills. The units are designed so that although there is a different theme/context for each (which may complement another curriculum Learning Journey), the skills build 	<ul style="list-style-type: none"> At Quest Primary, the children's Design & Technology journey begins in Nursery and Reception following the Expressive Art & Design programme with the children engaging in a range of experiences to become create, construct and build with a range of materials. The National Curriculum Programme of Study is used to deliver learning in line with the National Curriculum expectations for Design and Technology. All units of work in D&T follow the Design, Make, Evaluate process and include Technical Knowledge. Skills and knowledge that fall under each of these categories are taught throughout the unit. 	<p>Children:</p> <ul style="list-style-type: none"> Increasing percentages of children will achieve mastery (at age-related expectation) of each D&T topic and become skilled and articulate young designers, regardless of their starting points, or any additional needs they may have. Children will be excited and passionate about D&T. They will speak enthusiastically about their D&T learning and articulate what they are learning and why it is important. Children will be able to use appropriate technical vocabulary accurately,

<p>progressively and can be applied in each context.</p> <ul style="list-style-type: none"> • Design and Technology is taught in Nursery and Reception across the year. In Key Stage 1 and Key Stage 2 it is taught three times per year. It will be taught on a weekly basis for the half term, or in a block of a week or two weeks as part of a Learning Journey. • First-hand experiences will be provided for the children where possible to enhance their interest in Design and Technology, and to develop their further learning, e.g. local visits (for example to Shirley Windmill), visits to local secondary schools or visitors to school. • Children will be aware of how D&T transcends different cultures, religions and backgrounds and speaks a universal language. • Each unit of work develops key vocabulary so that the children can discuss and evaluate products. Key vocabulary and definitions are located on the unit's Knowledge Organiser. Key vocabulary is returned to throughout the child's D&T journey at Quest Primary, allowing retrieval, consolidation and deepening understanding. • Children will understand and appreciate the value of Design and Technology in the creative and cultural industries and will have an insight into their future career opportunities. 	<ul style="list-style-type: none"> • Key vocabulary is explicitly taught to children as part of quality-first teaching. Vocabulary is clearly modelled on knowledge organisers. • Teachers will teach units themed around each of the core strands – Food, Nutrition and Cookery, Materials and Textiles, Mechanisms, Structures and Construction and Electrical Systems (KS2 only), allowing children opportunity to build incrementally on previously learned knowledge and skills. • Children will be taught explicit technical knowledge skills. They are given time in lessons to practice these and each skill is revisited enabling children to demonstrate progress. Children will be encouraged to be open to the possibility that they may fail when trying a new skill, they will be encouraged to be resilient when they are not achieving what they may have set out to, children will develop the confidence to make mistakes and learn from these. • Children use design folders (Y1 upwards) to investigate, design, plan and evaluate their D&T products and outcomes. These show children's design process, skills practice and evidence of making (e.g. photos) and evaluation of the product. • During a project, where applicable, children will consider sustainability and the environmental impact of existing products. • Children are introduced to great designers, inventors, engineers and chefs and encouraged to understand how they have contributed to the world and technological advancement. • Teachers' skilful questioning allows all children to make progress and reflect on learning. Retrieval opportunities are planned for by teachers, to ensure children have opportunity to secure new knowledge. Children will know more, remember 	<p>independently, to demonstrate their understanding.</p> <ul style="list-style-type: none"> • Children will be aware of the work and impact of great designers, inventors and chefs, recognising their contribution to Design Technology. • Children will be enthused to continue their D&T learning at secondary school, and some may pursue careers in the STEM subjects, in their future careers. • As designers, inventors, engineers, chefs and architects, Quest children will develop skills and attributes that can use beyond school and into adulthood. <p>Children's Work:</p> <ul style="list-style-type: none"> • High-quality D&T outcomes will demonstrate that children can choose and use tools and select materials appropriately. • Work in children's D&T folders will demonstrate their cumulative knowledge building of the Design, Make and Evaluate process, resulting in a well-planned and executed final design. • Children's D&T projects will be celebrated and shared widely around the school on displays and through Class Dojo and social media. <p>Teachers:</p> <ul style="list-style-type: none"> • Are confident and knowledgeable when teaching the D&T curriculum, and support pupil's effectively to make good progress and develop their skills. <p>Parents:</p>
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	<p>more and understand more about Design Technology.</p>	<ul style="list-style-type: none"> • Parents will see their child’s confidence, knowledge and skills in D&T increase. • The D&T curriculum will contribute to children’s personal development in independence, designing and evaluation.
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National Curriculum Objectives

KS1:
 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

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:

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

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.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

- ♣ use the basic principles of a healthy and varied diet to prepare dishes

- ♣ understand where food comes from.

Key stage 2

- ♣ 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.