Shinewater Primary School

Design & Technology

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Intent

Design and Technology is an inspiring, rewarding and practical subject. At Shinewater we encourage children to learn, think and work inventively to solve problems both as individuals and as members of a team. We support children to develop their creativity 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 want the children to gain invaluable knowledge and skills essential for active participation in modern British life. Wherever possible, we aim, to link work to other subjects such as 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. The curriculum is designed to encourage children to be resilient, creative , who can easily apply their knowledge to a range of problems in the real world. Through the introduction and research of some of the world's greatest innovators we hope to inspire the children and raise their Cultural Capital by showing the limitless possibilities that are available to them all as they get older.

If you're walking down the right path and you're willing to keep walking, eventually you'll make progress.

Barack Obama

I started to take a keen interest in food when I was 16 years old. When I was a young teenager my mother always encouraged my brother, my sister and I to get involved in the kitchen - stirring and smelling things so we would understand how things were made.

Ainsley Harriot
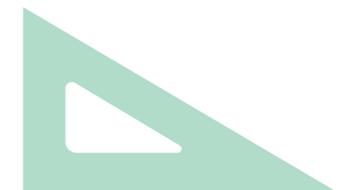
Implementation

Within a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in the process of designing and making. The children work in a range of relevant contexts, for example home, school, leisure, culture, enterprise, industry and the wider environment, in order to make their creations meaningful.

At Shinewater key skills and knowledge for Design and Technology have been mapped across the school to ensure progression and coverage across year groups and are in line with those set out for Design and Technology in the National Curriculum. The subject is part of each classes Learning Adventure which ensures that there is a purpose for the children's work and that they learn about real life structures and products as a basis for their own work. Design and Technology lessons are taught in all year groups at least three times per year.

Children are introduced to significant figures in Design and Technology, including engineers, designers, inventors and ground breakers from across the world. They will learn about their backgrounds, cultures, struggles, perseverance and the impact they have had.

Implementation

When designing and making, the children learn skills through four strands which is the process of: Designing, making, technical knowledge and evaluating. Children are given the opportunity to research and evaluate existing products and structures, analysing successful elements that they may want to include in their own design, whilst exploring how they will creatively integrate their own ideas. The promotion of new and rich vocabulary linked to designing and technology is essential to the successful acquisition of knowledge and understanding. They are taught how to select the correct materials and tools most suited to their design. High standards in health and safety are modelled and reinforced through all lessons.

Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare food hygienically and safely. This too will include an design process with a finished product that will be evaluated against the design criteria.

The Early Years Foundation Stage (EYFS) follows the 'Development Matters in the EYFS' guidance which aims for all children in Reception to have a Good Level of Development in the Expressive Arts and Design area of learning by the end of the academic year.

Design and Technology should be the subject where mathematical brain-boxes and science whizz-kids turn their bright ideas into useful products.

James Dyson

We cannot solve problems with the same thinking we used when we created them

Albert Einstein

Design is not just what it looks like and feels like. Design is how it works.

Steve Jobs

Impact

You can't use up creativity. The more you use, the more you have.

Maya Angelou

I wrote a piece of code that gave birth to a multi-million dollar industry

Alan Emtage

At Shinewater understanding and progression within the Design and Technology curriculum will be measured against the key skills, relevant to each year group. Children will be deemed to have succeeded if they have developed the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. They will have clear enjoyment in the subjects and improved confidence which they can then apply to other areas of the curriculum. Additionally they will have gained the expertise to make high-quality prototypes and products for a wide range of uses. At the end of the process children should be able to critique, evaluate and test their ideas and products and the work of others.

This will be evidenced through Learning Adventure books, completed work, displays, through talking to children and in the EYFS there will be photographs of the children's achievements on their Tapestry Learning Journey.

Design and Technology Long Term Plan

Year 1	Term 2 Card making Mechanisms sliders and levers	Term 3 Islands Structures Freestanding structures Term 4 Toys Use simple mechanisms to add movement	Term 5 Cooking Food - preparing fruit and vegetables (including cooking and nutrition requirements for KS1)
Year 2	Term 2 Fire engines Mechanisms wheels and axles	Term 4 Puppets Textiles - templates of joining techniques Cooking Food - preparing fruit and vegetables (including cooking and nutrition requirements for KS1)	Term 6 Tie Dye Textiles - 2D shape to 3D product
Year 3	Term 2 Cooking Food - healthy and varied diet (including cooking and nutrition requirements for KS2)	Term 4 Bridges Structures Shell structures (including computer aided design)	Term 6 Sewing Textiles - 2D shape to 3D product
Year 4	Term 1 Sewing Textiles – exploring different stitches. Term 2 Tower of paper Structures Shell structures (including computer aided design)	Term 4 Electrical Systems Simple circuits and switches (including programming and control)	Term 5 Cooking Food - healthy and varied diet (including cooking and nutrition requirements for KS2)
Year 5	Term 2 Pop-up Books How to use simple mechanisms to add movement	Term 3 Cooking Food - celebrating culture and seasonality (including cooking and nutrition requirements for KS2)	Term 4 Working models Electrical systems - more complex switches and circuits (including programming, monitoring and control)
Year 6	Term 2 Sewing Textiles - combining different fabric shapes (including computer aided design)	Term 3 Sculpture Show how freestanding structures can be made stronger, stiffer and more stable	Term 6 Cooking Food - celebrating culture and seasonality (including cooking and nutrition requirements for KS2