



Design Technology Statement of Intent

Design is a funny word. Some people think design is how it looks, but of course if you dig deeper it's really how it works.

Steve Jobs

At Whinstone Primary School, we believe that design and technology helps to prepare children for the developing world and encourages them to become curious and creative problem-solvers, both as individuals and as part of a team.

Through the study of Design and Technology, children will combine practical skills with an understanding of aesthetic, social and environmental issues. Design and Technology helps all children to become discerning and informed consumers and potential innovators. It provides children with a greater awareness and understanding of how everyday products are designed and made.

At Whinstone, we encourage children to use their creativity and imagination, to design and make products using a range of tools and equipment that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.

The children are given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become visionaries and risk-takers.

Learning to cook is a crucial life skill, children at Whinstone will understand how to apply the principles of a varied and healthy diet to their own lives. They will have a greater understanding of where our food comes from and how to use various ingredients in dishes by using a range of cooking techniques.





DT KS2 National Curriculum

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



Design Technology Implementation

DT is taught as an area of learning in its own right, as well as integrated with other curriculum areas where appropriate. There is also flexibility to seize opportunities to celebrate and acknowledge significant events.

Year 5 Design Technology Implementation – Key Concepts
<p>The Key Concepts of Design Technology at Whinstone are:</p> <ul style="list-style-type: none"> • Developing, planning and communicating ideas. • Working with tools, equipment, materials and components to make quality products • Food and Nutrition • Evaluating processes and products

In Year 5 the Key Concepts of DT are taught through the following sequence of topics::					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Sewing Christmas decorations with different stitches		Food and Nutrition -scones	Pop-Up cards	Pulleys, cogs and wheels	

Topic Specific Vocabulary
specification, criteria, method, develop, cost, sustainable, innovation, impact, cams, pulleys, gears, quality temporary, permanent, , savoury, peel, chop, slice, grate, mix, spread, knead, bake, nutrients, fibre, energy, diet, hazard, evaluate



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These Key Concepts, knowledge and vocabulary will be taught and reinforced through the development of the specific skills listed. These Key Concepts and vocabulary will be revisited and repeated throughout a child’s journey of DT at Whinstone.

Developing, planning and communicating ideas.	Working with tools, equipment, materials and components to make quality products	Food and Nutrition	Evaluating processes and products
<p>Generate ideas through discussions and identify a purpose for their product</p> <p>Draw up a specification and criteria for their design</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p>Start to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p>	<p>Select appropriate materials, tools and techniques</p> <p>Measure and mark out accurately</p> <p>Use tools and equipment safely and accurately</p> <p>Understand how mechanical systems such as cams, pulleys and gears create movement.</p> <p>Cut and join with accuracy to ensure a good-quality finish to the product</p> <p>Measure, tape or pin, cut and join fabric with increasing accuracy</p>	<p>Understand that food is sourced in many different ways.</p> <p>Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.</p> <p>Start to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Begin to understand that different food and drink contain different substances (nutrients, water and fibre) that are needed for health and to provide energy</p> <p>Weigh and measure accurately (time, dry ingredients, liquids)</p> <p>Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens</p>	<p>Evaluate a product during and at the end of an assignment against the original design specification</p> <p>Evaluate it personally using appropriate tests and seek evaluation from others</p>



Design Technology Impact

At the end of each topic teachers will evaluate what knowledge and skills pupils have gained within the Key Concepts.

SKILL	Meeting expectations
Developing, planning and communicating ideas.	I can generate ideas and can draw up a specification and ideas form my design
Developing, planning and communicating ideas.	I can develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail
Developing, planning and communicating ideas.	I can use results of investigations, information sources, including ICT when developing design ideas
Developing, planning and communicating ideas.	I am starting to understand how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.
Working with tools, equipment, materials and components to make quality products	I can select and safely use appropriate materials, tools and techniques and can measure and mark out accurately
Working with tools, equipment, materials and components to make quality products	I understand how mechanical systems such as cams, pulleys and gears create movement.
Working with tools, equipment, materials and components to make quality products	I can cut and join accurately to achieve a quality finish
Working with tools, equipment, materials and components to make quality products	I can measure, tape or pin, cut and join fabric with increasing accuracy
Food and Nutrition	I understand that food is sourced in many different ways.
Food and Nutrition	I understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source.
Food and Nutrition	I can use a range of techniques such as peeling, chopping, slicing, grating, mixing, kneading, baking and spreading.



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Food and Nutrition	I am beginning to understand that different food and drink contain different substances (nutrients, water and fibre) that are needed for health and to provide energy
Food and Nutrition	I can weigh and measure accurately (time, dry ingredients, liquids)
Food and Nutrition	I can apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens
Evaluating processes and products	I can evaluate a product during and at the end of an assignment against the original design specification
Evaluating processes and products	I can evaluate it personally using appropriate tests and seek evaluation from others