



## 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.

<b>Year 6 Design Technology Implementation – Key Concepts</b>
<p>The Key Concepts of Design Technology at Whinstone are:</p> <ul style="list-style-type: none"> <li>• Developing, planning and communicating ideas.</li> <li>• Working with tools, equipment, materials and components to make quality products</li> <li>• Food and Nutrition</li> <li>• Evaluating processes and products</li> </ul>

In Year 6 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
Food and nutrition- pizzas Party hats		Moving Toy		Phone case/ pencil case	Buzzer game (electricity)

<b>Key Vocabulary</b>
specification, criteria, quality, electrical circuits, savoury, hygiene, peel, chop, slice, grate, mix, spread, knead, bake, nutrients, fibre, energy, diet, test, 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>Draw up a specification and criteria for their design</p> <p>Communicate their ideas through detailed labelled drawings</p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p>	<p>Select appropriate tools, materials, components and techniques</p> <p>Assemble components to make working models</p> <p>Use tools safely and accurately (including saws)</p> <p>Construct products using permanent joining techniques</p> <p>Make modifications as they go along to achieve a quality product</p> <p>Know how more complex electrical circuits and components can be used to create functional products and how to program monitor and control their products.</p> <p>Pin, sew and stitch materials together create a product</p>	<p>Understand that food is sourced in many different ways.</p> <p>Understand that seasons may affect the food available.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Know 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>Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know different food and drink contain different substances (nutrients, water and fibre) that are needed for health.</p>	<p>Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests</p> <p>Record their evaluations using drawings with labels</p> <p>Evaluate against their original criteria and suggest ways that their product could be improved</p>



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## Design Technology Impact

At the end of each topic teachers will evaluate what knowledge and skills pupils have gained against expectations.

SKILL	Meeting expectations
Developing, planning and communicating ideas.	I can generate ideas and can draw up a specification and ideas form my design including detailed labelled drawings
Developing, planning and communicating ideas.	I can use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.
Developing, planning and communicating ideas.	I can plan the order of my work choosing appropriate materials, tools and techniques
Working with tools, equipment, materials and components to make quality products	I can assemble components to make working models and construct models using permanent construction techniques
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 can make modifications as I go along to achieve a quality product
Working with tools, equipment, materials and components to make quality products	I know how more complex electrical circuits and components can be used to create functional products and how to program monitor and control my products.
Working with tools, equipment, materials and components to make quality products	I can measure, tape, pin, cut and stitch fabric with accuracy
Food and Nutrition	I understand that food is sourced in many different ways and can be seasonal
Food and Nutrition	I understand how food is processed into ingredients that can be eaten or used in cooking.
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
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 record my evaluations using drawings with labels
Evaluating processes and products	I can evaluate it personally using appropriate tests and seek evaluation from others