



# Whinstone Primary School Year 3 Design Technology



## 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 3 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>

<b>In Year 3 the Key Concepts of DT are taught through the following sequence of topics::</b>						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	British designers and inventions	Sew patches	Biscuits/energy bars	Celtic Roundhouses	Egyptian Masks	Understand mechanical systems creating movement

<b>Key Vocabulary</b>
Design criteria, product, plan, design, stitch, sew, needle, adapt, evaluate, levers, linkages, grown, reared, caught, savoury, peel, chop, slice, grate, mix, spread, evaluate, designer



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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 for an item, considering its purpose and the user/s</p> <p>Identify a purpose and establish criteria for a successful product.</p> <p>Plan the order of their work before starting</p> <p>Explore, develop and communicate design proposals by modelling ideas</p> <p>Make drawings with labels when designing</p>	<p>Select tools and techniques for making their product</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Think about their ideas as they make progress and be willing change things if this helps them improve their work</p> <p>Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Use basic sewing techniques to join fabrics</p>	<p>Start to know that food is grown, reared and caught in the UK, Europe and the wider world.</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>Begin to understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing and spreading.</p> <p>Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eat well plate’</p> <p>Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>Evaluate their product against original design criteria e.g. how well it meets its intended purpose</p> <p>Disassemble and evaluate familiar products</p> <p>Begin to evaluate the key designs of individuals and how they have helped shape the world.</p>



## Design Technology Impact

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

<b>SKILL</b>	<b>Meeting expectations</b>
Developing, planning and communicating ideas.	I can generate ideas considering a purpose and its users, identify a success criteria based on this
Developing, planning and communicating ideas.	I can draw designs and label them
Working with tools, equipment, materials and components to make quality products	I can select appropriate materials and tools to create my product and use them accurately and safely
Working with tools, equipment, materials and components to make quality products	I can measure, mark, cut and shape with more accuracy
Working with tools, equipment, materials and components to make quality products	I am starting to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.
Working with tools, equipment, materials and components to make quality products	I can use basic sewing techniques to join fabrics
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 and spreading.
Food and Nutrition	I understand that healthy food and drink are required to provide energy for the body
Evaluating processes and products	I can evaluate my design against the initial design criteria
Evaluating processes and products	I can evaluate existing products and understand how designs of individuals have shaped the world



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