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 4 Design Technology Implementation – Key Concepts
The Key Concepts of Design Technology at Whinstone are: • **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 4 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
Make a model air raid shelter Sew Xmas decoration		Egyptian masks Wooden photo frames Look at key designers		Design and make own chocolate bars Savoury dish (African rice)	

Topic Specific Vocabulary
Purpose, criteria, product, plan, method, develop, saw, temporary, permanent, stitch, sew, weave, pin, needle, grown, reared, caught, savoury, peel, chop, slice, grate, mix, spread, knead, bake, healthy, diet, evaluate, designer

Whinstone Primary School Year 4 Design Technology

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
Generate ideas, considering the purposes for which they are designing Make labelled drawings from different views showing specific features 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 Evaluate products and identify criteria that can be used for their own designs	Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques (including sawing) Join and combine materials and components accurately in temporary and permanent ways Sew using a range of different stitches and weaves Measure, tape or pin, cut and join fabric with some accuracy	Understand that food is grown, reared and caught in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up from a variety and balance of different	Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests Evaluate the key designs of individuals and how they have helped shape the world.

Design Technology Impact

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

Key Concept	Meeting expectations
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 from different angles and label them
Developing, planning and communicating ideas.	I can evaluate existing products and identify criteria that can be used for my own design
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 (including sawing)
Working with tools, equipment, materials and components to make quality products	I can join materials in a range of temporary and permanent ways
Working with tools, equipment, materials and components to make quality products	I can measure, mark, cut and shape with accuracy
Working with tools, equipment, materials and components to make quality products	I can sew using a range of different stitches and weave sand measure, tape or pin, cut and join fabric with some accuracy
Food and Nutrition	I understand that food is grown, reared and caught in the UK, Europe and the wider world.
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.
Food and Nutrition	I know that a healthy diet is made up from a variety and balance of different
Evaluating processes and products	I can evaluate my design against the initial design criteria carrying out appropriate tests
Evaluating processes and products	I can evaluate existing products and understand how designs of individuals have shaped the world