High Meadow
Community School

Design and Technology

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- ♣ develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- ♣ build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- ♣ critique, evaluate and test their ideas and products and the work of others
- ♣ understand and apply the principles of nutrition and learn how to cook.

Long term Plans

	Autumn Term	Spring Term	Summer Term
Year 1	Eat More Fruits and Vegetables	Moving Minibeasts	Stable Structures
Year 2	Puppets	Vehicles	Perfect Pizzas
Year 3	Storybooks	British Inventors	Light-Up Signs
Year 4	Seasonal Stockings	Making Mini Greenhouses	Seasonal Food
Year 5	Building Bridges	Chinese Inventions	Fashion and Textiles
Year 6	Programming Pioneers	Bird House Builders	Burgers

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Key Stage 1 Long Term Objectives

Objective	Year 1				Year 2		
	Eat More Fruit & Veg	Moving Minibeasts	Stable Structures		Puppets	Vehicles	Perfect Pizzas
design purposeful, functional, appealing products for themselves and other users based on design criteria							
generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology							
select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]							
select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics							
explore and evaluate a range of existing products							
evaluate their ideas and products against design criteria							
build structures, exploring how they can be made stronger, stiffer and more stable							
explore and use mechanisms [for example, levers, sliders, wheels and axles], in their Products							
use the basic principles of a healthy and varied diet to prepare dishes							
understand where food comes from							

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Key Stage 2 Long Term Objectives

Objective	Year 3			Year 4			Year 5			Year 6		
	Storybooks	British Inventors	Light-Up Signs	Seasonal Stockings	Making Mini Greenhouses	Seasonal Food	Building Bridges	Chinese Inventions	Fashion and Textiles	Programming Pioneers	Bird House Builders	Burgers
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												
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												
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												
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												
understand and apply the principles of a healthy and varied diet												
prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques												
understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed												