Mylor Bridge CP School Curriculum
Design 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.

Subject content

Key stage 1

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 and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- 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

Make

- 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

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- 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.

Key stage 2

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.

At Mylor Bridge CP School, we use Kapow to support our planning and delivery of the subject. Kapow Primary's Design and technology scheme of work aims to inspire pupils to become curious, creative and innovative thinkers with a broad understanding of how products are designed and made, in other words, to think like designers and engineers. The intention is for pupils to develop the confidence to identify problems, generate ideas, plan and create products and evaluate their outcomes.

The scheme aims to raise pupils' awareness of how design and technology shape the way they live, work and interact with the world. It encourages pupils to become resourceful, enterprising individuals who have the skills to contribute to and improve the world around them.

The scheme supports teachers in developing their subject knowledge and skills, enabling the delivery of engaging, well-informed lessons with confidence. The curriculum is designed to be both accessible and ambitious, ensuring all learners' full participation and potential achievement.

Although Design and Technology units are aligned and designated to specific year groups in Key Stage 2, classes in Key Stage 1 are mixed age, and thus, delivery of the scheme has been adapted to reflect this. Units designed for Year 1 and 2 have been reorganised to ensure effective progression of knowledge and skills throughout this phase.

Year Group		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
EYFS		Structures: Junk modelling	Cooking and nutrition: Soup	Textiles: Bookmarks	Structures: Boats		
KS1	Cycle A	Mechanisms: Making a Moving Storybook	Structures: Constructing a windmill	Textiles: Puppets	Mechanisms: Wheels and Axles	Cooking and Nutrition: Smoothies	
	Cycle B	Textiles: Pouches	Mechanisms: Making a Moving Monster	Structures: Baby Bear's Chair	Cooking and Nutrition: Balanced Diet	Mechanisms: Fairground Wheel	
Year 3		Textiles: Egyptian collars	Electrical systems: Electric poster	Mechanical systems: Pneumatic toys	Digital world: Wearable technology	Cooking and nutrition: Eating seasonally	Structures: Constructing a castle
Year 4		Art	Structures: Anglo-Saxon helmets	Electrical Systems: Torches	Mechanical cars	Cooking and nutrition: Adapting a recipe	Textiles: Fastenings
Year 5		Textiles: Stuffed Christmas decoration	Cooking and nutrition: Developing a recipe	Gears and pulleys	Structure: Bridges	Digital world: Monitoring devices	Electrical systems: wobblebot
Year 6		Digital world: Navigating the world	Textiles: Hats	Electrical systems: Steady hand game	Mechanical systems: Automata toys	Structure: Theme Parks	Cooking and nutrition: Come dine with me