

West Witney Primary School and Nursery

Curriculum Information



Design and Technology

KS1 and KS2

Curriculum Information

Introduction

At West Witney Primary School and Nursery, we believe that Design and technology is an inspiring, rigorous and a practical subject. Through our Design and Technology curriculum, pupils are encouraged to become independent, creative thinkers and problem solvers who can work autonomously, as well as part of a team. 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.

Lessons are planned so that pupils follow a process where evaluation and communication are key. Design and Technology lessons allow pupils to apply learned skills from various other subjects such as mathematics, science, computing and art. A broad range of subject knowledge comes together in their projects in which the children design, make and evaluate products that solve real problems, in a variety of contexts.

Intent

At West Witney Primary School and Nursery, we have designed our DT curriculum so that our learners, develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. Using the National Curriculum as a basis, the DT programme of study has been mapped with focus, appropriateness, coherence and sequentially. There is a clear progression of substantive knowledge, Tier 3 vocabulary and links between strands of DT, to ensure all pupils achieve well. New knowledge and skills build on what has been taught before, setting the foundation for future learning. Enriching experiences are planned to ignite the children's passion for DT and help them gain episodic and semantic knowledge.

Implementation

Design and technology teaching focuses on enabling children to think as design engineers. We aim to build and apply a repertoire of knowledge, understanding and skills to design and make high quality products for a wide range of users. They will be able to critique, evaluate and test their ideas and products. We recognise that in all classes, children have a wide range of capabilities in DT, and we seek to provide suitable learning opportunities for all children, by layering the depth of learning and challenge. Emphasis is placed on the development of disciplinary knowledge alongside substantive knowledge. A variety of teaching approaches are used, including:

Impact

The impact of the DT curriculum at West Witney Primary School is the demonstration that the curriculum has been planned and delivered well. This can be seen through:

- Clear evidence that our children have shown progress and attainment in line with the National Curriculum.
- Our children demonstrate enthusiasm for the subject and can talk with confidence and knowledge about DT
- Our children demonstrate an understanding of a range of design and technology vocabulary that can be applied, confidently.
- As design engineers, our children can use their skills to pose questions, evaluate evidence and draw conclusions. They 'know more' so they can make links between their knowledge from different strands of Design and Technology.

Recording

DT at West Witney is recorded in the art and DT books. For the majority of lessons, learning is practical and evidence is seen in photographs of completed products with evaluation sheets. Teachers will use their professional judgement to make this decision. Children will be given the opportunity to build their understanding and experiences through a variety of tasks that will allow them to show their DT skills and knowledge.

Assessment

Children will have the opportunity to answer key concept questions in a verbal and written format, which will give the teachers an excellent understanding of how well children have understood the taught knowledge and skills. After each

DT topic, teachers will make a summative assessment of whether the child is working towards the age-related expectation, at age related expectation or working at greater depth. To develop their awareness of their knowledge and learning, children will have the opportunity to self and peer assess against learning objectives and depth of learning statements. Many other formative assessment strategies are used, including conversations with the children and the 'products' seen as a result of their learning. Formative and summative assessment are used together by teachers to gain a good understanding of the knowledge the children have embedded

The Design and Technology Journey at West Witney Primary School

Year	Design and Technology focus					
1	Construction: simple structures	Cooking and Nutrition: fruit and vegetables	Construction: Simple structures	Mechanisms: Sliders and Levers	Textiles: joining fabrics	
2	Construction: structure designs		Mechanisms: drawbridges	Mechanisms: wheels, axles and axle holders	Construction: stronger, stiffer and stable.	Cooking and nutrition: healthy diet
3	Construction: shell structures		Cooking and Nutrition: combining food with appropriate utensils		Mechanisms: levers and linkages	
4	Electricity: simple electric circuit - design and make a torch		Textiles: patterns and seam allowances		Cooking and Nutrition: Fresh and processed food	
5	Construction: Functional and aesthetic qualities		Mechanisms: cams, gears and pulleys		Cooking and Nutrition: Seasonality	
6	Textiles: combining pieces, shapes and different fabrics		Cooking and Nutrition: using heat sources		Electricity: series and parallel circuits	

Cooking and Nutrition	Construction	Textiles
Mechanisms	Electrical Systems	

Cooking and Nutrition
At KS1 the children understand and use basic principles of a healthy and varied diet to prepare dishes. They will also understand where a range of fruits and vegetables come from and are grown. At KS2 they will use appropriate equipment and utensils including heat sources to prepare and cook foods. They will develop understanding about seasonality in relation to food products.
Construction
During KS1, children build structures, exploring how they can be made stronger, stiffer and more stable using different joining techniques. They are able to use the provision to experiment with different joining techniques, choosing appropriate resources to support their ideas. They are able to explore their ideas and make improvements. This links into KS2, where they explore different shell structures and apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products.
Textiles
In KS1 they select from and use a wide range of materials including textiles for a specific purpose. They understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch or stapling. As they progress in KS2 they select and use a wide range of materials, exploring their functional properties and aesthetic qualities for a specific purpose.
Mechanisms
In Year 1 they begin to explore and use sliders and levers and understand that different mechanisms produce different types of movement. In year 2 they create a moving vehicle, experimenting with wheels and axles. They are able to distinguish between fixed and free axles. At KS2, they understand and use mechanical systems in their products. For example, In year 5 they explore using cams to create movement in their products. They understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.
Electrical Systems
In KS2, they understand and demonstrate that mechanical and electrical systems have an input, process and output. They represent simple electrical circuits, such as a series and parallel, and components to create functional products and apply their understanding of computing to program, monitor and control a product.

