





Design and Technology

Westlands Primary School

Swale ACADEMIES TRUST

Intent

Design and Technology within the modern world is ever present for all. It is imperative that all children are given the opportunities to develop their own personal life skills. Through gaining these experiences, children can foster a love of creative learning, which can then support their potential life decisions. These can include; creativity, critical thinking skills, communication and practical knowledge and competence.

The Programme of Study, delivered through a rich and varied curriculum, enables children to explore their own potential and talents. Through exposing children to practical experiences, such as construction, cooking, sewing, design, technology and enterprise opportunities, our pupils will develop a love of creative learning and how this is apparent within the world around us.

How does this link with our school context?
Design and Technology will enable all children to develop resilience, confidence and a sense of achievement. Through participating in lessons, which can be practical, pupils will have the opportunity to develop ingenuity and expertise. By challenging their decision-making and risk-taking, their self-awareness will support them into future discoveries and the world beyond.

Children will gain an understanding of how structures, mechanisms, materials and electrical systems are used and applied in everyday life and are important to the world around us. These four areas form the key strands of learning that encompass the design and creation of modern day functional products and how they influence our lives. It is important for children to develop their knowledge of well known products and their designs to use as part of their own design, make and evaluation process.

Children need to understand the principles of nutrition and healthy eating to promote their own health and wellbeing and that of others. By being able to explain the benefits of a healthy diet, children will gain a lifelong understanding of the importance of food and nutrition and how this can affect their lives. Through being given the experiences of cooking, children will foster a love of this important life skill and having the ability to explain the benefit of each food group and where food is sourced, they will have an underpinned knowledge and understanding of the world around them.

Implementation

How is Design and Technology taught at Westlands Primary School?

Within a variety of creative and practical activities we teach the knowledge, understanding and skills needed to engage in the process of designing, making, evaluating and having an understanding of technical knowledge. Westlands Primary School hold Design and Technology weeks and Food Technology and Healthy Eating is taught for a term for each year group, where they have the opportunity to participate in practical and written activities. The children learn about where food comes from, as well as a healthy, balanced diet and preparing food hygienically and safely.

Following a long term plan, we focus on three main principles; Design, make and evaluate. Across the focus week, the whole school focuses on one main skill yet tailoring the knowledge to each key stage. The lessons are planned and delivered sequentially and learning is recorded in the appropriate manner, according to the stage of product development.

Design and Technology objectives are reinforced throughout our curriculum, for example in Maths (nets/shapes/direction and movement). Design and Technology projects will be set at the end of the term in which Design and Technology was a focus, and will be based on the knowledge and skills that have been learnt, allowing pupils to collaborate with their parents/carers to create products.

Design Technology in the Early Years

In EYFS, activities are planned related to termly topics based on children's interests. We ensure children develop skills related to the Early Learning Goals and within Expressive Arts and Design, Physical Development and Understanding the World areas of learning. They are taught how to handle and use small tools, such as scissors and paintbrushes effectively and to safely use and explore a variety of materials, tools and techniques. They are encouraged to experiment with colour, design, texture, form and function. Pupils enjoy sharing their creations and explaining the process they have used to make it. This can be both individually and collaboratively. Food Technology is incorporated into each term, exploring the key methods such as mixing, pouring and sprinkling. This can be through making/decorating biscuits, cakes and other delicious food. This can also be embedded weekly through messy play. Healthy eating is used daily through our snack times in which opportunities are planned to learn about food safety and hygiene.







KS1

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.







KS2

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.

Food Technology

Each class has an opportunity to experience and learn about food technology for a term once a year. Mrs Cope carries out specific lessons in which the children learn about nutrition and cooking skills. Through this they participate in making foods to take home.

Sewing Skills









Inclusive Practice - Bespoke for the subject

Throughout Westlands Primary, teachers ensure that adaptive planning and activities are available to all pupils. Resources are provided which suit the needs and developmental stages of all pupils. Lessons are delivered by teachers who demonstrate the processes of the lesson. All children are encouraged to question and challenge ideas and concepts.

Key vocabulary is applied in all lessons, with visual aids to support their knowledge and understanding of new and unfamiliar words.

Pupils have access to adapted tools, such as smart loop scissors and larger needles. Pupils are given a range of prototypes to enable them to see a finished product and to be able to visualise these, to support with their own design and making process.

Enrichment Activities

In DT we aim to provide opportunities for children to explore their learning in a more practical way. Some DT enrichment activities at Westlands Primary include:

- EYFS - School catering team support and demonstrate healthy eating activities for example making pizza/ fruit salad.
- KS1- Making buildings from Pudding Lane and recreating ‘The Great Fire of London’
- Cooking Club
- Home Learning DT projects

Enrichment activities often see high levels of pupil engagement in the subject and lead to high quality outcomes, as well as providing valuable and memorable experiences

Impact of your curriculum

At Westlands Primary we measure children's progression in Design and Technology against the core curriculum skills and objectives for each year group.

This will be evidenced through:

- Art and Design portfolio that continues throughout their primary journey.
- Photographs
- Observations and learning walks
- Completed outcomes and displays
- Tapestry - EYFS

National Curriculum Objectives

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.

National Curriculum Objectives

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.

National Curriculum Objectives

Cooking and nutrition:
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.
Pupils should be taught to:

Key stage 1:

- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

Key stage 2:

- 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.