Warden House Primary School

Design Technology Policy

Agreed by the Senior Leadership Team: Term 6 2023

"Good buildings come from good people, and all problems are solved by good design."
Stephen Gardiner

Intent:

At Warden House we aspire to use opportunities within our design and technology curriculum provision to ensure that pupils draw on their creativity and imagination when designing and making products that have a real and relevant function, whilst considering their own and other's needs and aesthetic desires. The design and technology curriculum at Warden House is constructed and designed to inspire the children's curiosity and fascination about the world around them and product design. To ensure that the children know more and remember more, links have been made between design and technology units, curriculum subjects covered within a year and across year groups to ensure that learning is revisited and built upon in a manner that is meaningful for the children. The sequence and structure of learning has been organised with careful consideration of technical knowledge and with embedded retrieval practices to deepen the children's knowledge and understanding over time. By blocking units we strive to ensure that the children widen their technical knowledge and understanding of the full process involved in designing. They are provided with the time to develop those practical skills and progress their ability with using the required tools for that unit. We endeavour to increase their subject vocabulary; develop curiosity and heightened critical thinking and problem-solving skills and understand that they learn how to take risks, become resourceful innovative enterprising and capable citizens who are the future of design.

Implementation:

The sequence of learning and teaching practices for design and technology at Warden House are supported using published materials from Kapow. The curriculum is designed to help pupils to remember what they have been taught over the long term whilst integrating new technical knowledge and skills. Retrieval practices are embedded within our teaching and learning structure to increase the learning, retention and recall of technical and practical knowledge; teachers use a variety of strategies within lessons and units such as quizzing, and retrieval practices to ensure the children's understanding, identify and challenge misconceptions. All design and technology units allow for the pupils, at all stages of their design process, to fully immerse themselves. Planned opportunities for pupils to research and test existing products out will inspire their own designs that they will continuously evaluate. Continuous time to make their product will ensure a fluid process and creation.

In EYFS children will:

Begin to explore, learn and apply a range of design technology skills to be learnt through opportunities in 'Expressive Arts and Design' and 'Understanding the World'. Early Learning Goals support teachers in assessing children's development and the following Early Learning Goals can be linked to supporting learning foundations for design technology:

ELG: Fine Motor Skills

Children at the expected level of development will:

- Use a range of small tools, including scissors, paint brushes and cutlery;
- Begin to show accuracy and care when drawing.

ELG: Creating with Materials

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

In KS1 children will:

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.

In KS2 children will

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].

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.

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.

Impact:

The design and technology curriculum at Warden House will enhance pupil's skills and knowledge in design, structures, mechanisms, electrical control, textiles, CAD and food. They will be able to demonstrate how all products play a part in the world around us and that these products are always evolving. Children will leave Warden House knowing that designs and products can be will that solve real and relevant problems.

Inclusion

In all classes, there are children of differing abilities; stages of development and stages of understanding. We recognise this fact and that children's learning is understood developmentally, and provide suitable learning opportunities, for all children, by matching the support and scaffold given to access the learning tasks to meet the needs of the child.

Cross-curricular links

Cross curricular opportunities will be made across subjects where this supports intended learning outcomes, these links will be delivered in a creative and irresistible way.

Health & safety

Because children may be using tools and materials that could possibly present a hazard if used incorrectly, children will be taught to use the correct methods and will be encouraged to recognise the risks involved. Teachers will promote these in order to ensure the health and safety of their pupils. Children will also be taught the necessity of looking after equipment, by using it correctly and keeping it clean and tidy.

Assessment, recording, reporting and feedback

The subject leader and class teacher are responsible for assessment, attainment and monitoring the standard of the children's work and the quality of teaching in design technology in line with the school's assessment policy.

Some examples of methods of assessment that will be used are:

- Pupil voice – to check understanding, understanding of key techniques, progression, confidence in discussing their designs and techniques
- Monitoring of display and books
- Feedback from parents and guests who attend show case events

The role of the subject leader

The subject leader is responsible for supporting colleagues in the teaching of design technology, for being informed about current developments in the subject and for providing a strategic lead and direction for the subject in the school.

The subject leader will:

- Monitor the standards in the subject to ensure that outcomes are at expected levels
- Highlight / Celebrate successes
- Collate appropriate evidence over time – this should show that pupils' skills and understanding develop over time
- Provide ongoing support to colleagues
- Discussing resource needs with teachers
- Identify areas of CPD need for design technology across the school

Review

This policy will be reviewed by the Senior Leadership team as part of the school's two-year review cycle to evaluate the school's progress towards against its action plan, with additional required action to be identified and tracked by the design technology subject leader. Progress will be discussed with the school senior leadership team and reported to the governors. This evaluation will form the basis for an action plan, which will then inform the school Short Term Plan.

This policy was written by Rachel Bishop – Design Technology Subject Leader