

Warren Wood Primary Academy and The Evergreen Centre Design and Technology Policy

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Contents

Mission Statement	4
Values	4
Statement of Equality.....	4
Overview	4
Aims	5
Teaching and Learning	5
Long Term Plan Matrix	6
Early Years.....	6
Key Stage 1.....	6
Design	7
Make.....	7
Evaluate	7
Key Stage 2.....	7
Design	7
Make.....	8
Evaluate	8
Technical Knowledge	8
Food and Nutrition.....	8
EYFS	8
Key Stage 1.....	8
Key Stage 2.....	9
The Six Essential Elements to Design and Technology.....	9
Presentation and Recording of Work	9
Assessment and Recording.....	10
Monitoring.....	10
Special Needs.....	10
Health and Safety.....	12
Food Hygiene	12

Document Change History

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November 2023	1.2	Added to the Trust template

Mission Statement

“To nurture and develop all people in our Trust so that they reach their full potential academically, vocationally, and personally, including being positive role models for future generations in the community. We will achieve this by providing high quality values-based education that cultivates employability and life skills making our schools the first choice for young people, parents, carers, staff and employers.”

Values

The values of Respect, Excellence, Collaboration, Independence, Perseverance, Enjoyment, Leadership, Integrity and Care are central to everything we do at the Skills for Life Trust.

Statement of Equality

We have carefully considered and analysed the impact of this policy on equality and the possible implications for pupils with protected characteristics, as part of our commitment to meet the Public Sector Equality Duty (PSED) requirement to have due regard to the need to eliminate discrimination, advance equality of opportunity and foster good relations.

Overview

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 make an essential contribution to the creativity, culture, wealth and well-being of the nation.

Our work follows the Design and Technology Progression Framework from the 2014 National Curriculum:

Design Technology prepares pupils to participate in tomorrow's rapidly changing technologies. They learn to think and intervene creatively to improve quality of life. The subject calls for pupils to become autonomous and creative problem solvers, as individuals and members of a team. They must look

for needs, wants and opportunities and respond to them by developing a range of ideas and making products and systems. They combine practical skills with an understanding of aesthetics, social and environmental issues, function and industrial practices. As they do so, they reflect on and evaluate present and past design technology, its uses and effects. Through design technology, all pupils can become discriminating and informed users of products, and become innovators

Aims

- To increase children’s awareness of and the importance of design and technology in our lives.
- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making things.
- To develop an understanding of technological processes and products, their manufacture and their contribution to society.
- To fulfil the requirements of the Early years Foundation Stage Curriculum and the National Curriculum for Key Stage 1 and Key Stage 2.
- To explore computing as a means of design.
- To encourage attitudes of collaboration, co-operation and respect.
- To make all children aware of aspects of health and safety.
- To foster a sense of enjoyment, purpose and pride in their ability to make.
- To nurture creativity and innovation through designing and making.

Teaching and Learning

To maximise learning in Design and Technology children need to be given opportunities to handle and manipulate products and tools, in order to develop a deeper understanding of what they are learning. Children should be given opportunities to learn through whole class teaching, individual and group work. Their learning should include investigative, disassembly and evaluative activities, focused practical tasks, design and make assignments, and evaluations of what they have achieved.

Design Technology links well with many other subjects, such as Art, Maths, Computing and Science and teachers carefully plan these links to ensure they are meaningful. To ensure high standards of teaching and learning in Design and Technology, we implement a curriculum that is progressive throughout the whole school. Teachers use the Design and Technology Skills Map to ensure the curriculum is covered and the skills and knowledge taught is progressive from year group to year group. Units of work are carefully organised on the school’s Design and Technology Skills Map so that over the course of each key stage children will experience projects on food technology, structures, textiles, mechanisms and electrical systems. The skills and knowledge have been allocated to year groups and revisited to ensure progression and coverage. Each year group should carry out ‘Design, Make, Evaluate’ projects over the course of the school year one being food and

nutrition. In KS1 and KS2, Design and Technology is linked, where possible, with topics being studied that half term in dedicated DT subject sessions.

Long Term Plan Matrix

	Autumn	Spring	Summer
Year 1	Mechanisms Sliders and Levers	Mechanisms Wheels and axels	Food Preparing fruit and vegetables
Year 2	Structures Free standing structures	Food Preparing fruit and vegetables	Textiles
Year 3	Textiles	Electrical Systems	Food Healthy and Varied Diet
Year 4	Structures	Food <i>Healthy and varied Diet</i>	Mechanical Levers and linkages
Year 5	Structures and materials	Textiles Sustainability	Food Health and varied diet.
Year 6	Electrical systems: More Complex Switches and Circuits	Food: celebration culture and seasonality	Frame Structure: Mayan Temple

Early Years

In EYFS, learning in the specific area ‘Expressive Arts & Design’ and ‘Physical Development’ takes place across every day indoors and outdoors.

Exploring and using media and materials: children listen to stories, sing song, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.

Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.

Physical development: children handle equipment and tools effectively for a purpose.

Key Stage 1

Through a variety of creative and practical activities, children 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.

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 a range of tools and equipment to perform practical tasks such as 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 their design criteria
- Technical knowledge
- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms in their products for example: leavers, sliders, wheels and axils

Key Stage 2

Through a variety of creative and practical activities, the children are taught the knowledge, understanding and skills needed to engage in the process of designing and making. They 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 a range of tools and equipment to perform practical tasks accurately for example, cutting, shaping, joining and finishing
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional 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 mechanical systems in their products for example, circuits incorporating switches, bulbs, buzzers and motors
- apply their knowledge of computing to program, monitor and control their products

Food and Nutrition

The National Curriculum for pupils in KS1 and KS2 states the following in the programme of study:

As part of the work with food, pupils should be taught to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in children will 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’.

EYFS

There are many opportunities for the children to prepare snacks, selecting different ingredients. Under supervisions, they are taught to use appropriate tools.

Key Stage 1

- use the basic principles of a healthy and varied diet to prepare food
- understand where food comes from
- use appropriate kitchen tools correctly and safely, under close supervision

Key Stage 2

- understand and apply the principals 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
- use appropriate kitchen tools with increasing independence and accuracy

The Six Essential Elements to Design and Technology

1. **User** – children have a clear idea of who they are designing and making products for, considering their needs, wants, interests, or preference. The user maybe themselves, an imaginary character, another person, client, consumer or specific audience.
2. **Purpose** – children know what the products they design and make are for. Each product performs a clearly defined task that can be evaluated in use.
3. **Functionality** – children make and design products that function in some way to be successful. Products often combine aesthetic qualities with functional characteristics. We recognise that in D&T, it is insufficient for children to design and make products which are purely aesthetic.
4. **Design Decisions** – when designing and making, children have opportunities to make informed decisions such as selecting materials, components and techniques and deciding what form the products will take, how they will work, what tasks they will perform and who they are for.
5. **Innovation** – when designing and making, children have scope to be original with their thinking. Projects are planned that encourage innovation, lead to a range of design ideas and products being developed. These projects are characterised by engaging, open-ended starting points for children’s learning.
6. **Authenticity** – children design and make products that are believable, real and meaningful to themselves i.e. not replicas or reproductions or models which do not provide opportunities for children to make design decisions with clear users and purposes in mind.

Presentation and Recording of Work

In design technology children’s work can take various forms. It can be exploring and developing ideas and producing a piece of work for example, a model or a design. Children can record their work individually, as a group or class. Photographs and video can be used to record the process or the finished work. Created work can be displayed in classroom and around school to celebrate children’s work.

Assessment and Recording

Teachers, and other supporting adults, assess pupils design and technological capability through:

- interactions
- questioning
- responding to pupils recorded work and products
- on-going observations
- discussions between staff and working with groups of pupils

This formative assessment is used by teachers, other supporting adults, and children to measure the children's skills, knowledge and understanding in design and technology and supports the planning of what the most appropriate next steps will be.

Assessment of the key skills in design and technology are completed at the end of a unit of work, throughout each year group, and are used by teachers to assess the skills children have mastered and to plan future learning.

Monitoring

The Curriculum leader, alongside SLT, is responsible for monitoring and evaluating curriculum progress. This is done through:

- work scrutiny,
- planning scrutiny,
- resource audits,
- learning walks which involve lesson observation drop-ins,
- pupil interviews,
- subject-knowledge audits with staff.

Special Needs

Supporting SEND Children Across the Curriculum including the Evergreen Centre.

We adapt the curriculum and learning environment for pupils with SEND: Warren Wood Primary Academy & Evergreen Centre prides itself in being inclusive and will endeavour to support every child regardless of their level of need. All pupils follow the National Curriculum at a level and a pace that is appropriate to their abilities. At times and when it is felt appropriate, modifications to the curriculum may be implemented.

To successfully match pupil ability to the curriculum there are some actions we may take to achieve this:

1. Ensure that all pupils have access to the school curriculum and all school activities.
2. Help all pupils achieve to the best of their abilities, despite any difficulty or disability they may have.
3. Ensure that teaching staff are aware of and sensitive to the needs of all pupils, teaching pupils in a way that is more appropriate to their needs.
4. Assess arrangements are considered and monitored by the SEND Team.
5. Pupils to gain confidence and improve their self-esteem.
6. To work in partnership with parents/ carers, pupils, and relevant external agencies in order to provide for children's special educational needs and disabilities.
7. To identify at the earliest opportunity, all children that need special consideration to support their needs (whether these are educational, social, physical, or emotional)
8. To make suitable provision for children with SEND to fully develop their abilities, interests, and aptitudes and gain maximum access to the curriculum.
9. Ensure that all children with SEND are fully included in all activities of the school in order to promote the highest levels of achievement.
10. To promote self-worth and enthusiasm by encouraging independence at all age and ability levels.
11. To give every child the entitlement to a sense of achievement.
12. To regularly review the policy and practice in order to achieve best practice.
13. To ensure that we provide a language-rich environment and use resources such as Widgit to create communication boards for some pupils.
14. Any children who are identified as having 'special needs' are given the help that they require to enable them to access the design technology curriculum. Where children have a degree of physical, sensory or behavioural difficulties in the making of products, they should be encouraged to participate in Design Technology activities with help from others. Assessment activities are varied and can be a piece of writing, a quiz, a piece of practical work or a presentation. Teachers may use evidence from discussions or written work to assess attainment.

We understand that children learn and develop in different ways. Teachers and teaching assistants recognise this and use different teaching styles, and resources and plan different levels of work in the classroom to cater to the various ways children learn.

Any children who are identified as having 'special needs' are given the help that they require to enable them to access the design technology curriculum. Where children have a degree of physical, sensory or behavioural difficulties in the making of products, they should be encouraged to participate in Design Technology activities with help from others. Assessment activities are varied and can be a piece of writing, a quiz, a piece of practical work or a presentation. Teachers may use evidence from discussions or written work to assess attainment.

Health and Safety

Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work it. Risk assessments are carried out by the class teacher for activities where a risk assessment is deemed necessary.

Children need to be taught how to

- Use tools and equipment correctly
- Recognise hazards and risk control Children should be
- Be strictly supervised in their use of equipment at all times
- Be taught to respect the equipment they use and to keep it stored safely while not in use
- Be taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

Food Hygiene

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food
- Pupils and staff working with food must wear aprons designed for cooking
- Hair tied back

Sawing

- Bench hooks and clamps must be used when sawing any material
- Safety goggles must be worn and any loose items of clothing/hair must be tucked in