

“Every child is a unique child of God.”

WHINMOOR



ST. PAUL'S
C of E Primary School

Whinmoor St Paul's (VA) C of E Primary School

Design and Technology Curriculum Policy

Every Child is a Unique Child of God

At Whinmoor St. Paul's Church of England Voluntary Aided Primary School, everything we do is underpinned at all times by the Christian ethos of valuing the individual. We believe that every child is respected as a unique child of God, the future adults in society. We believe children are gifts from God and we are privileged to work with their families and carers, to enable them to live life to the full.

Agreed: April 2021

Review Date: April 2024

Signed: Chair of Governors: Mrs R Davies

Date: 28/04/2021

Mission and Ethos

At Whinmoor St Paul's Primary School we believe that every child is a unique child of God and lives in a world that God has made.

We aim:

- To provide a safe nurturing environment where every child can achieve his/her full potential
- To inspire a lifelong love of learning
- To value all faiths and cultures and to celebrate diversity
- To develop a sense of respect and responsibility towards self, others and the world in which we live
- To build strong relationships with the local community, our city and the wider world

And to do all this as a caring community based on strong Christian values.

The Governing Body and staff of Whinmoor St Paul's Primary School take as our first priority the responsibility to safeguard and promote the welfare of our pupils, to minimise risk and to work together with other agencies to ensure rigorous arrangements are in place within our school to identify, assess, and support those children who are suffering harm and to keep them safe and secure whilst in our care.

Curriculum aims and objectives

'Design and Technology is an inspiring, rigorous and practical subject.'

(NC KS1 & 2 framework document Sept 2013)

Using the Programmes of Study from the National Curriculum, our aim is to:

- 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.

School Policy and the National Curriculum:

Design and Technology is a foundation subject in the National Curriculum.

At KS1 and KS2 teachers use the National Curriculum to plan and prepare a balanced and broadly based curriculum which will allow children opportunities to use creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts.

They will acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. They will also learn how to take risks, become resourceful, innovative, enterprising and capable citizens.

To achieve the above children will be given opportunities for:

- Open ended tasks which can have a variety of responses.
- Activities which reflect the children's own ideas, experiences, needs and problems.
- Linking Design and Technology to other areas of the curriculum e.g. English, Maths, Art, Music Geography and History.
- Individual, group and whole class activities and creations.

Planning and Organisation

Each class teacher is responsible for the teaching of Design and Technology in their class, in consultation with and with guidance from the Design and Technology coordinator/Phase Leaders.

We ensure that there are opportunities for children of all abilities to develop their skills and knowledge.

Opportunities for progression are planned for, to ensure that children are increasingly challenged as they move through the school.

An overview of how this is broken down can be seen on the DT Curriculum map (Appendices 1 and 2)

Foundation Stage

Teachers of the Foundation Stage base their teaching on the objectives determined in the Foundation Stage Framework for Early Years.

This ensures that they are working towards the 'Early Learning Goals for Creative Development under the umbrella of 'Creative Arts and Design'.

The goals involve independent and guided exploration of, and engagement of a widening range of media and materials; finding out about and working with colour, texture, shape, space and form in two and three dimensions.

Key Stage 1

We use the National Curriculum programme of study as the basis for our curriculum planning for Design and Technology in Key Stage 1 to ensure full coverage of the subject in our planning.

Pupils should be taught:

- 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.
- Select from and use a range of tools and equipment to perform practical tasks.
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.
- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.
- Build structures, exploring how they can be made stronger, stiffer and more stable.
- Explore and use mechanisms.
- Use basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

Key Stage 2

We use the National Curriculum programme of study as the basis for our curriculum planning for Design and Technology in Key Stage 2 to ensure full coverage of the subject in our planning.

Pupils should be taught:

- Use research and develop design criteria to inform the design of an 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.
- Select from and use a wider range of tools and equipment to perform practical tasks.
- 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.
- 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 technology have helped shape the world.
- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Understand and use mechanical systems in their products.
- Understand and use electrical systems in their products.
- Apply their understanding of computing to program, monitor and control their products.
- 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.

Differentiation is incorporated into the lessons in a variety of ways:

- ❖ Setting suitable learning challenges
- ❖ Responding to children's diverse learning needs
- ❖ Overcoming potential barriers to learning for individuals and groups of children.

Recording of Children's Work

The recording of children's work in Design and Technology can be through the following forms:

- DT plans, diagrams, products and evaluations
- Photographic evidence of the DT work created and the process of making it.

These are used to inform teachers whether the child is demonstrating the expected level of achievement in Design and Technology for their particular year group.

Pieces of DT work are used to create and enhance visual displays in school, alongside photographs.

Monitoring and Evaluation

Design and Technology is monitored throughout the school by phase leaders and DT coordinator.

Evidence is provided through:

- Data analysis
- Review of planning
- Learning tour of displays
- Pupil interviews

Feedback is shared and discussed with senior management, staff and governors regularly.

Arrangements for review Policies are regularly updated/reviewed by staff and governors to ensure that all aspects of the Design and Technology policy aims are being met and that the standards of Design and Technology are continuing to improve.

'We have a clear duty under the Equality Act 2010 to ensure that our teaching is accessible to all pupils.

Inclusive PSHE will foster good relations between pupils, tackle all types of prejudice, promote understanding and respect, enabling us to meet the requirements, and live the intended spirit, of the Equality Act 2010.'

This policy will be reviewed again by the Governors and DT coordinator by April 2024

Appendix 1

Curriculum Map

DT	Autumn	Spring	Summer
Year 1	Moving Pictures L.O. To explore mechanisms e.g. levers and sliders Moving Pictures	Construction Kits and Materials L.O. To use a range of construction kits and materials. Homes	Food L.O. To select and use foods and a range of equipment Teddy Bears Picnic
Year 2	Textiles L.O. To design purposeful and functional product for themselves based on design criteria Finger Puppet	Vehicles L.O. To explore and use mechanisms e.g. wheels and axils The children will design and make a vehicle using card and wood.	Mask/ Jewellery Making To select and use materials and a range of equipment African Masks and jewellery
Year 3	<u>Constructions Materials</u> L.O. 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 Photo frame	<u>Cooking and Nutrition (Year 3 Science Link-Amazing Bodies)</u> L.O. To select from and use a wider range of materials and components, ingredients, according to their functional properties and aesthetic qualities Healthy Sandwich	<u>Design, Make and Evaluate</u> L.O. To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Moving Monster
Year 4	<u>Design, Make and Evaluate</u> L.O. To select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately Clay Faces	<u>Electrical systems</u> L.O. To select from and use a wider range of materials and components, including bulbs, motors and buzzers. <u>(Year 4 Science Link-Switched on)</u> Make a toy/ game with an electrical circuit	<u>Construction Materials</u> L.O. To select from and use a wider range of materials and components, including construction materials , according to their functional properties and aesthetic qualities Money containers

Year 5	<p><u>Textiles</u></p> <p>L.O. To select from and use a wider range of materials and components, including textiles and, according to their functional properties and aesthetic qualities</p> <p>Anglo Saxon Money bags</p>	<p><u>Constructions Materials</u></p> <p>L.O. 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</p> <p>Paper Mache Greek Masks</p>	<p><u>Gears, Pulleys and Cams</u></p> <p>L.O. understand and use mechanical systems in their products e.g. Gears, Pulleys, Cams</p> <p><u>(Year 5 Science Link-Feel the force)</u> Vehicles</p>
Year 6	<p><u>Leavers and Linkages</u></p> <p>L.O. understand and use mechanical systems in their products e.g. leavers and linkages</p> <p>Shadow puppet theatre</p>	<p><u>Cooking and Nutrition</u></p> <p>L.O. To select from and use a wider range of materials and components, including food and ingredients</p> <p>Victorian Chutney</p>	<p><u>Computer programming</u></p> <p>L.O. To apply their understanding of computing to program, monitor and control their products.</p> <p>March of the Robots</p>

Appendix 2

NC Coverage

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. 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	Years 1 and 2
	Years 1 and 2
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: <ul style="list-style-type: none"> • construction materials • textiles • and ingredients, according to their characteristics	Years 1 and 2
	<ul style="list-style-type: none"> • Years 1 /2 • Year 2 • Year 1
EVALUATE ♣ explore and evaluate a range of existing products ♣ evaluate their ideas and products against design criteria	Years 1 and 2
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.	Years 1 and 2
	Year 1

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. 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	Years 3-6
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 <ul style="list-style-type: none"> • construction materials, • textiles • and ingredients, according to their functional properties and aesthetic qualities	Years 3-6 <ul style="list-style-type: none"> • Years 3-6 • Y5 • Y3 and Y6
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	Years 3-6
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.	<ul style="list-style-type: none"> • Y4 • Y5/Y6 • Y4 • Y6