WINGROVE PRIMARY SCHOOL

Policy Statement for

Design and Technology

Subject leader: Lauren Hopper
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Purpose of study

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

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- 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

Subject content

Schools are not required by law to teach the example content in [square brackets].

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
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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

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

In the Foundation Stage - Nursery and Reception - the curriculum is guided by the Early Learning Goals which lead directly into the National Curriculum.

Planning
Planning is undertaken at three levels:

Long term planning is based on the yearly teaching programmes set out in the National Curriculum.

Medium term planning is carried out half-termly in year group teams. Teachers select their main teaching objectives from the yearly teaching programme and use the detail provided in the QCA subject document to ensure a balanced Design and Technology curriculum.

Planning is monitored by subject leaders and the Headteacher.

Cross Curricular Links
In order to create a cohesive and meaningful learning programme for our children, we try to identify links during the planning stage and give children the opportunity to use their subject knowledge and skills in real contexts. Design and Technology works best when it is linked with other subjects to give it purpose and meaning.

Teaching Methods and Approaches
Lessons follow a logical format with an introduction, direct teaching, main activity and plenary. It is made clear to the children at the start of the lesson exactly what it is they will learn as the objectives are shared with them.

The teaching at Wingrove provides opportunities for:
- Group work
- Paired work, including mixed ability and similar ability pairs
- Whole class teaching
- Individual work

The pupils engage in:
- The development of mental skill and strategy
- Written recording
- Practical work
- Investigations
- Problem solving
- Design and Technology focussed discussion
- Consolidation of basic skills and routines

At Wingrove School we recognise the importance of establishing a secure foundation in Design and Technology and of teaching and using vocabulary appropriate to the task. We endeavour to set work that is challenging, motivating and which encourages the pupils to talk about what they have been doing.

Organisation
In the Foundation Stage Design and Technology plays an important role in the curriculum. The Knowledge and Understanding and Creative aspects of the Early Learning Goals cover D.T. work.
In both KS1 and KS2 Design and Technology lessons are an integral part of creative curriculum and may be undertaken across a block, or in weekly lesson times. Differentiation in Design and Technology takes place through outcome, or by task across the school.

Display
We recognise the important role display has in informing, stimulating, motivating and celebrating the work of our pupils. Design and Technology has a key role in creating exciting and motivating two and three dimensional display work. This is emphasised in the displays in classrooms and around the school. Displays are changed regularly and strive to be colourful, informative and of a high standard.

Assessment and Record Keeping
At Wingrove we are continually assessing our pupils and recording their progress. Each child is assessed at the end of each half term to ensure progression. Assessment outcomes are used to inform the next cycle of planning thus ensuring a match of work to the needs of the pupils and ensuring progress. Assessments are carried out on three levels:

Short term assessments are an informal part of every lesson. Assessment at this stage tends to be by outcome. Children are encouraged to evaluate their own work and to be critical. This aims to inform the pupil and the teacher as to where progression may be made.

Medium Term assessments are carried out half-termly. At the end of each unit of work in Design and Technology, evidence of each child's work is recorded in their topic books or D.T books. Photographs can be used if it is three-dimensional. Assessment is made by the teacher in relation to the key objectives of the unit. The evidence of this work will also be compared to the attainment levels of the National Curriculum. All children record their acquisition of DT skills in the Skills Passport.

Long term assessments are carried out towards the end of the school year when pupils' attainment is measured against the record of key objectives for the subject and any targets previously set. Teacher assessment, statutory and other standardised measures, where applicable, are used.

Assessment outcomes are analysed by subject leaders and provide the focus for development within the subject for the coming year.

Reporting
All parents receive an annual written report that includes a summary of their child's progress in Design Technology over the year.

Resources
Resources for Design and Technology are stored in the resource cupboard opposite the school hall. Materials are reviewed annually and updated from evaluations. The subject leaders order the materials required within the budget allocation and in consultation with colleagues.

Equal Opportunities
As a staff we endeavour to maintain an awareness of, and to provide for, equal opportunities for all pupils in Design and Technology. We aim to take into account cultural background, gender and any special need, both in our teaching attitudes and in the published materials we use with our pupils.

Children with Specific Needs (English as an Additional Language or Special Educational Needs)
Wherever possible we aim to fully include all pupils with in all lessons so that they benefit from listening and participating with others in demonstration, discussion and explanation.
Where necessary teachers will, in consultation with the specialist Inclusion Manager to draw up and individual plan for the child. Where appropriate children may work on an individualised programme with support or specialist staff. Children may also receive targeted support within the classroom.

Specific planning to meet the needs of such children is identified in the teachers' planning. This may take the form of simplified or modified tasks or the use of support staff.

Where appropriate a group plan is developed with common objectives and learning targets for a group.

More Able Pupils
Children will be taught within the appropriate peer group. The Gifted and Talented Coordinator reviews the number of children with specific talents. They are extended through differentiated work.

Homework
Homework in Design and Technology is not prescribed and is given at the discretion of each teacher. This may occur in a cross-curricular link with another subject.