WINGROVE PRIMARY SCHOOL

Policy Statement for

Design and Technology

Subject leader: Charlotte Bainbridge
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Intention

Design and technology helps to prepare children for the rapidly changing technological society in which we live. The subject encourages children to become creative problem solvers, both as individuals and as part of a team. Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products within a variety of contexts, considering their own and others' needs, wants and values, drawing on their mathematic, scientific, computing and artistic knowledge. Through the study of design and technology they combine practical skills with an understanding of aesthetic, social and environmental issues.

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;
- to encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to foster enjoyment, satisfaction and purpose when designing and making;
- 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.

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

- critique, evaluate and test their ideas and products and the work of others.

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.

Key stage 2

Design and technology will engage the children in a broad range of designing and making activities, which involve a variety of methods of communication, eg. speaking, designing, assembling, making, writing and using information and communication technology. These activities can be differentiated through careful planning and the selection of resources which are appropriate for different ages and abilities.

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; understanding the nutritional value of food and how to prepare themselves a healthy meal.

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.

Implementation

Planning is undertaken at three levels:

Long term planning is based on the yearly teaching programmes set out in the National Curriculum and outlined in Wingrove's 'Whole School Creative Curriculum' Projects' document. This ensures that our children can develop depth in their DT knowledge and skills over the duration of the academic year.

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 this to ensure a balanced design and technology curriculum.

Planning is monitored by subject leaders and the curriculum lead.

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. We appreciate that design and technology works best when it is linked with other subjects, such as mathematics, science, computing and art in order 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. We teach DT to all pupils, whatever their ability.

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;
- work and exploration in Forest School;
- investigations;
- problem solving;
- design and technology focussed discussion;
- consolidation of basic skills and routines.

When teaching a nutrition based unit of work, we teach pupils how to follow proper

procedures for food safety and hygiene and using tools (such as cutting equipment) safety.

At Wingrove School, we aim to celebrate STEM (science, technology, engineering and maths) week. This provides our pupils a further opportunity to participate in topical projects with a design and technology focus.

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.

Impact

The impact of our Design and Technology Curriculum is that children develop imaginative thinking which enables them to talk about what they like and dislike when designing and making. Our pupils will be able to talk about how things work, and to draw and model their ideas. Throughout the design, make, evaluate cycle, pupils are encouraged to select appropriate tools and techniques for making a product, whilst also following safe procedures, which are modelled by class teachers.

Wingrove's knowledge and skills progression map, stored on our central system, outlines what is expected for each year group to ensure that the entire DT curriculum is taught progressively by the time they finish in primary education. The progression maps are also used to assess and monitor coverage in each group. This map has been produced to support teachers understanding of the DT curriculum and the skills which are non- negotiable in their given year group.

By the time children leave us at the end of KS2, they will be fully equipped to continue to develop their technical knowledge in this area, with a sound understanding of technological processes, products, and their manufacture, and their contribution to our society.

Organisation

In EYFS, design and technology plays an important role in the curriculum. Through the 'Expressive Arts and Design' strand of the EYFS curriculum, children are encouraged to explore a variety of materials, tools and techniques, as well as share their creations with others. This feeds appropriately into the key stage 1 curriculum.

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.

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. Assessments are carried out on three levels:

Short term assessments are an informal part of every lesson. We assess the pupils' work in design technology whilst observing them working during lessons and during discussions of each other's' work. Teachers will be aware of the progress made by pupils against the learning objectives for their lessons.

Medium Term assessments are carried out half-termly. During each unit of work in design and technology, evidence of each child's work is recorded in their creative curriculum books. Practical work is documented on Class Dojo or Seesaw.

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. 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 a centralised key stage 1 and key stage 2 trolly. The subject leader orders 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 within 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. Once skills and knowledge are acquired, the teacher will create opportunities for children to develop mastery in applying these in differing contexts.

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.