

Design and Technology Policy

'Design is a funny word. Some people think design is about how it looks but of course, if you dig deeper, it's really how it works.'
Steve Jobs, Apple Inventor

Rationale

At Wybunbury Delves we aim to *'light the spark for a love of learning and of life'* and believe Design and Technology is a subject which offers the best opportunities to achieve this. **We adopt a SPARK approach to learning** to foster and maintain children's creativity.

Curriculum Intent

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.

The aims of Design and Technology are to:

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.

Curriculum Implementation

Class teachers are responsible for their own class organisation and teaching style in relation to DT, while at the same time ensuring these complement and reflect the overall aims and philosophy of the school. Within any one class, children are given the opportunity to work as a class, as part of a group and as individuals. There are occasions when whole class activities are appropriate in the teaching of Design and Technology. These may include the introduction of a new topic, a new skill or activities leading to further group work (or when an activity generates so much excitement and enthusiasm it is impossible to work with only one group at a time). Group work eases pressure on resources and also offers the children opportunities to work collaboratively, sharing ideas, offering suggestions and deciding details. This enhances communication skills and the acquisition of technological vocabulary. Group work is organised so as to promote cooperation and effective learning and understanding. Children will be provided with designing and making assignments, focused practical tasks (where they can practise a particular skill) and activities in which they can investigate, disassemble and evaluate simple products. A variety of resources are provided for the children and they are encouraged to make choices for themselves. Some of these resources are permanently accessible to the children. The choice of class organisation will be determined by the learning task or activity and the resources being used. Each class takes part in our Big Art week at the beginning of each term, with a focus on skills related to 3D art to engage children with their learning theme. This week is closely linked to Design and Technology skills and incorporates the skills taught and the artist linked to each term's learning.

Curriculum and School Organisation

Wybunbury Delves Primary school uses a variety of teaching and learning styles in Design and Technology lessons. DT is taught through a combination of direct teaching, providing children with real experience, use of teacher-prepared materials, work of designers and inventors, educational visits and other resources such as TV and Information Technology. We ensure that the act of investigating and making something includes exploring and developing ideas and evaluating and developing work. Children are given opportunity for exploration and experimentation and instruction in handling tools and materials. We do this best through a mixture of whole-class teaching, where introductions and discussions are appropriate, and individual/group activities.

The teaching of Design and Technology at Wybunbury Delves is approached in a flexible way throughout the school, within each Key Stage and within each year group, coordinating the requirements of National Curriculum within an integrated topic approach, providing development of skills and integration with other subjects. Design and Technology is taught through a combination of direct teaching to introduce new skills and providing pupils with real experiences through appropriate contexts. There are practical activities for pupils, educational visits, use of teacher prepared material, everyday items and IT where appropriate. Teachers ensure that, throughout the year, all skills listed in the curriculum will have been covered to ensure continuity of skills and

progression. Subject planning for Design and Technology is usually incorporated into holistic planning and assessment each term. Evidence can be found in Planning Journals. Teachers draw attention to good examples of individual performance as models for the other children. They encourage children to evaluate their own ideas and methods, and the work of others, and say what they think and feel about them.

EYFS Area: Expressive Arts and Design By the end of Reception children should be:

Exploring and Using Media and Materials: 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.

Technology: Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

National curriculum Subject content

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.

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.

Subject Content: 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 and 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 and understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Teaching and Learning / The Learning Environment

Covid-19

Catch up skills are being woven into next year group where appropriate. This is not possible for all activities.

Curriculum Enhancement Opportunities

Big Art week- termly in the first week

Gallery through Display to celebrate and value children's work and via their study work books

Visitors – professional (paid) or amateur (voluntary) eg Kids Kitchen (free) or Primary College (Y6 only)

Curriculum Impact

See whole school Assessment, Recording and Reporting Policy. Design and Technology is assessed in the same way as other foundation subjects. Planning and assessment is recorded, including pupil voice and examples of work. Medium term planning is incorporated into termly holistic plans. Individual lesson planning and outcomes can be evidenced through staff smart board files, displays, study work books, sketch books and photographs. We currently assess children's learning at the end of a series of lessons through class teacher's judgments, AfL and an assessment task (outcomes stored in cohort assessment folders). The children are assessed as 'above expectation', 'online' or 'below expectation'. This information is collated annually by class teachers.

Monitoring, review and evaluation

The Design and Technology Subject Leader ensures policy is in practice and is implemented across the school, take lesson observations, review of policy, collate an overview of curriculum coverage and complete Pupil Voice

CPD

Good practice is shared with staff through professional skills dialogue and sharing and through subject leaders working alongside colleagues.

Curriculum Risk Assessment

Please see t drive

Resources

An inventory of resources is available. General materials are stored centrally in the art/design and technology area. Resources are clearly labelled, and the resource trolley is able to be wheeled to classrooms. Tools (e.g. junior hacksaws etc) are in resourced toolkits. Staff are asked to submit to the Design and Technology Curriculum Co-ordinator lists of any resources which they require to be added to the existing stock.

Links with Other Subjects

Coverage of Design and Technology in each year group is integrated where possible into cross-curricular study work plans.

Big Art at the start of each term.

Reviewed by Julia Burns 2020