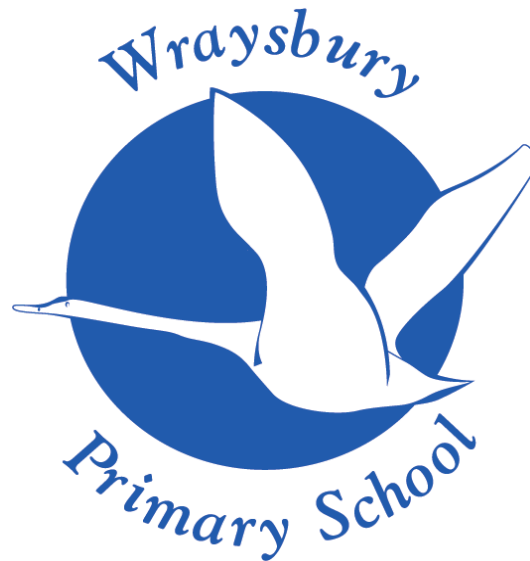


Design and Technology Policy



Welley Road

Wraysbury, Staines

TW19 5DJ

Headteacher: Mrs A Fox

Produced by:

Emma Wise

Approved by:

DT Subject Governor

Updated:

June 2022

Review:

June 2024

Design Technology

Design Technology (DT) combines designing and making, with the knowledge and understanding of the environment.

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.

INTENT

To deliver a scheme of work that ensures continuity and progression throughout the school and offers children the opportunity to develop ideas and skills that they have learnt:

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

Cooking and nutrition

As part of their work with food, pupils will 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.

Implementation - 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.

Subject content

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.

Time Allocation

DT may be carried out using a more flexible programme e.g. every afternoon during the making process until a product is complete, a week where the design and making process is complete to create a high quality product or as a part of a whole school DT week.

Organisation

For most activities, children will be taught by, or under the guidance of, the class teacher.

Parents and helpers should be encouraged to participate in design technology activities within the classroom, particularly where they can share areas of expertise. They should be advised of the safety implications when using tools and equipment.

Class teachers may seek advice from the subject leader. Support materials are available in the resources room. This includes the QCA DCSF scheme of work, which contains four possible units for each year group.

In Reception, children will follow the early learning goals: Knowledge and Understanding of the World.

In Key Stage 1 and the Upper Key Stage 2 a cross curricular approach for DT is followed. In the Lower Key Stage 2 a cross curricular approach can also be followed as well as teachers using the specific booklets for each unit of work to build up a skills based approach. DT planning is built into the medium term plans and the teaching of it is combined within them.

Children should be given the opportunity to work both independently and in a group. They should be actively encouraged to discuss their design ideas and evaluate their projects with teachers and peers.

Design technology offers children a chance to work at their own level and build on their own ideas and skills. Tasks should be differentiated according to the child's needs to ensure that all children are given equal opportunities to access all areas of the Design Technology curriculum.

Programme of study

Foundation stage

- Ask questions about why things happen and how things work
- Build and construct with a wide range of objects, selecting appropriate resources, and adapting their work where necessary
- Select the tools and techniques they need to shape, assemble and join the materials they are using
- Find out about and identify the uses of everyday technology and use information and communication technology and programmable toys to support their learning

Foundation Stage Topics

Autumn Experimenting with different resources
Structures: How to join different media together

Spring Woodwork: Introduction
Cooking linked to Traditional Tales

Summer Structures: Planning and Designing
Textiles: Sewing

Key Stage 1 Topics

Year 1

Autumn Food: Fruit and Vegetables- Smoothies

Spring 2 Constructing a Windmill

Summer 1 Textiles: Puppets

Year 2

Autumn 2 Mechanisms: Fairground Wheel

Spring 1 Structures: Baby Bear's Chair

Summer 1 Moving Mechanisms: Monsters

Summer 2 Textiles: Pouches

Lower Key Stage 2

Year 3

Autumn Digital World: Electronic Charm
Textiles: Cushion

Spring 2 Mechanisms: Pneumatic Toys

Summer 2 Food: Eating Seasonally

Year 4

Autumn Textiles: Fastenings

Spring Structures: Pavilion

Summer 1 Mechanical Systems: Slingshot Car

Summer 2 Electrical Systems: Torches

Upper Key Stage 2

Year 5

Autumn 1 Electrical Systems: Electronic Greetings Card

Spring 1 Mechanical Systems: Pop up book

Summer 1 Food: What could be healthier?

Year 6

Autumn 2 Textiles: Waistcoats

Spring 2 Structures: Playgrounds

Summer 2 Digital World: Navigating the World

Monitoring of Science and Design and Technology

At the end of every unit, each Phase will complete an evaluation form assessing the strengths and weaknesses of individual children and groups of children. This will be held by the DT Subject Leader.

Special Educational Needs

The DT curriculum will be made available for all children; teaching staff provide appropriate differentiation through investigations and recording, to enable all children to access the curriculum and enhance their individual knowledge and understanding of DT.

IMPACT

We use assessment to inform and develop our teaching.

- Topics commonly begin with an assessment of what children already know.
- We assess for learning. Children are involved in the process of self-improvement, recognising their achievements and acknowledging where they could improve. Activities during, and at the end of, each topic record achievement and celebrate success.
- We mark each unit of work positively, making it clear verbally, or on paper, where the work is good, and how it could be further improved.

- Class and individual assessment will be built into planning, as well as being carried out when the teacher judges it appropriate.
- Provisions for assessment will be both summative and formative and be outlined on midterm plans when handed to the co-ordinator.
- Examples and photographs of each unit are taken and kept in the school DT File held by the coordinator but available for all staff to view. This shows progression within Key Stages 1 and 2.

Resources

The annual DT budget and DT resources will be managed by the DT Subject Leader. The resources are stored in a central area and are accessible to all teaching staff. The DT Subject Leader should take care that the resources are kept well stocked and that they are in working order.

Safety

Due care and attention should be taken when using potentially dangerous equipment and resources. Consideration should be given to the Royal Borough of Windsor and Maidenhead guidelines, the CLEAPSS Health and Safety in Primary Science and Technology guidelines and the school's Health and Safety Policy.

DT Subject Leader

The DT Subject Leader is responsible for monitoring and management of all areas of the DT curriculum within the school. Within this role, coordinators are responsible for:

- Management of resources.
- Advising others about appropriate teaching styles and content.
- Ensuring the implementation of the DT Policy.
- Being aware of the changes in DT Education.
- Liaison between each Phase of the school, enhancing and ensuring progression.
- Provision of information during staff meetings and INSET days.
- Offering assistance in planning and evaluation.

Review

This policy will be reviewed on a biannual basis within the school and by the Governors' Teaching and Learning Committee.