



William Fletcher Primary School

Design and Technology Policy

William Fletcher School is a Rights Respecting School, this policy reflects Articles 17 (access to information) 24 (a safe environment) 28 (right to education) of the UN convention on the rights of the child.

Rationale

At William Fletcher we believe that design and technology is fundamental in encouraging children to become creative problem solvers both as individuals and as part of a team. It enables them to identify needs and opportunities in the world around them and to respond by developing ideas, to make a wide range of objects and models following design criteria. Children develop technical understanding and making skills, learn about design methods and evaluate the works of their own and others. We actively encourage the children to be inventive in their designs, through the study of design technology the children combine practical skills with an understanding of aesthetic, social and environmental issues.

“High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation” (DFE, Design and technology programmes of study: key stages 1 and 2).

Aims and objectives

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 planning

Design and Technology is a foundation subject in the National Curriculum. It can be taught as a unit of work over a number of weeks, as a stand alone session or in a block over a morning or afternoon. William Fletcher School have devised curriculum guidance for KS1 and KS2 that ensures progression across the key stages. Class teachers complete a plan for each design and technology lesson aided by this guidance; examples of this are kept in the design and technology subject folder. As a school we recognise that high quality design and technology lessons include; designing and making a product that has a particular purpose and is for a specific audience.

Design and technology across the key stages

At William Fletcher we give children of all ages and abilities the opportunity to develop their skills, knowledge and understanding in design and technology. We encourage our children to develop their ideas, plan and then make products whilst working on their own or as a part of a group. As a school we recognise the importance of providing children with the time to test, evaluate, refine and develop the products they design and make to check that they work and improve them if they don't.

As set out by the National Curriculum (*DFE, Design and technology programmes of study: key stages 1 and 2*) the following skills are taught:

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.

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.

EYFS

Different aspects of design and technology are encompassed within 'expressive arts and design' in the EYFS curriculum, however elements can also be found in other areas of learning (understanding the world, physical development, literacy and mathematics). The EYFS curriculum lends itself to an integrated approach to design and

technology as the children are actively encouraged to freely explore resources within the setting and pursue their own interests; alongside some planned activities. At William Fletcher we adopt aspects of 'in the moment' planning; observing and interacting with the children in order to identify next steps in their learning and ultimately help them make sense of the world around them. Early experiences in Foundation Stage include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing making skills and handling appropriate tools and construction material safely and with increasing control. As a school we provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities, indoors and outdoors, attract the children's interest and curiosity.

As set out in the EYFS framework (new curriculum), the early learning goal for creating with materials states that children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used.

Contribution of design and technology to teaching in other curriculum areas

At William Fletcher we recognise that in order to maintain quality within design and technology lessons each lesson must be given time on its own, without being combined with another subject, so as not to water down the nature of the subject. However, skills presented within design and technology can be linked and strengthened through incorporating other curriculum areas in order to give their work practical context.

Equality, diversity and inclusion

We teach design and technology to all children regardless of their race, ethnicity, gender, sexual orientation, socio-economic status, age, abilities, religious beliefs, political beliefs, or other ideologies. Design and technology forms part of our school curriculum policy to provide a broad and balanced education for all of our children. Our teachers provide learning opportunities that are matched to the needs of the children to ensure that all pupils have access to the full range of activities whilst studying design and technology. We assess the needs of each pupil, using a variety of techniques and we take action to enable the child to learn as effectively as possible including providing challenge for those who demonstrate a talent in the subject.

Health and safety

At William Fletcher we recognise the importance of health and safety when working with tools, equipment and resources. For this reason children are given suitable instruction on the operation of all equipment before being allowed to work with it. This includes: how to use tools and equipment correctly, identifying hazards and risks, respecting the equipment and storing it safely. For cooking and nutrition the children are also taught good food hygiene. Further health and safety guidance has been completed by the subject leader for managing a range of activities in design and technology. This guidance is adhered to by staff before completing a unit of work. Where a significant hazard has been identified and not included within this health and safety guidance, risk assessments are carried out by the class teacher. Where children participate in activities outside the classroom we carry out a risk assessment beforehand, to ensure that the activity is safe and appropriate for all pupils

Assessing and recording

We assess the children's work in design and technology through; observing them as they work during lessons, asking questions, judging final products and marking work kept in books i.e. plans and evaluations. Design and technology is assessed in accordance with the school's assessment policy. This enables the teacher to make an annual

assessment of progress for each child, as part of the child's annual report to parents. Design and Technology assessment information is part of the transition information provided to each child's new class teacher.

Resources

We have a selection of class-based and centrally stored materials and tools to ensure that all children have the necessary resources to access the subject. Key stage budgets cover the costs of materials and the replacement of tools, although we do occasionally ask children to bring some materials from home if applicable. The DT coordinator has a full list of resources and these are regularly updated and replenished.

Monitoring and review

The monitoring of the standards of children's work and of the quality of teaching in design and technology is the responsibility of the subject leader. The work of the subject leader also involves:

- Advising and supporting staff in the planning, teaching and learning of design and technology. This includes sharing the school's scheme of work and ensure that it is being adhered to.
- Monitoring progress of the subject across the school
- Monitoring and keeping stock of the school's resources
- Maintaining and keeping design and technology folder up to date including examples of planning and photographic evidence of work completed
- Develop a subject action plan alongside the relevant curriculum governor
- Keep up to date with and share any developments in design and technology. Conduct staff CPD as and when necessary
- Promote design and technology within the school
- Provide opportunities for the children to develop their cultural capital i.e. taking part in competitions
- Write and review the design and technology policy

Policy name	Design and Technology Policy
Frequency of review	3 years
Written	November 2020
Written by	Kelly Parsons

