

Bolton Primary School

Design and Technology Policy



Purpose of Study

Design and technology is a practical subject. Using creativity and imagination, pupils design and make products that solve real relevant problems within a variety of contexts. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. 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.

Aims

Our aims in teaching D&T are that all children will:

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 the work of others.

Understand and apply the principles of nutrition and how to cook.

Content

Early Years

Children will be given the opportunities to use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. Children will be encouraged to use what they have learnt about media and materials in original ways, thinking about uses and purposes. They will represent their own ideas, thoughts and feelings through design alongside other areas of the curriculum. Children will be shown how to use equipment and tools effectively.

Key Stage 1:

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:

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 (CAD taught through Computing)

Teaching and Learning:

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 and the local community.

All children will study Design & Technology alternating with Art across a year. Six units will be studied in 6-week blocks across a 2-year cycle. The knowledge, skills and understanding will be taught within DT topics to ensure continuity and progression through the two key stages and to provide a sound structure on which to build as they continue to KS3. The children will generally work in small groups and the lesson content will be pitched to the children's individual needs, interests and abilities. Where possible cross curricular links will be made and visits, visitors, drama & role play will enhance the meeting of objectives. All units will be planned and monitored by teaching staff; sometimes the lesson may be taught and delivered by TAs.

RESOURCES

CLASSROOM RESOURCES IN D&T include:

- A variety of regularly used tools and materials for cutting, joining and combining (e.g. scissors, glue)
- Paper, card and junk modelling materials
- Sculpting materials/textiles
- Construction kits appropriate to the age of the pupils.

CENTRAL RESOURCES IN D&T is the responsibility of all staff and is purchased from the central budget. They include:

- A wider range of less commonly used tools for cutting, shaping, joining, combining and finishing (e.g. woodwork tools)
- Mouldable materials (e.g. clay, plaster of Paris) and textiles.

Differentiation:

Those with particular special needs may have extra support for the activities or the language content altered. The recording of information can be changed to oral or pictorial communication and resources modified to be accessed more easily.

When necessary, pupils with special needs receive support from the class teacher or an adult and are supported to undertake exercises or projects geared to their level of ability or to take an effective and valuable role in mixed ability co-operative group work.

Pupils with a particular ability and flair for Design and Technology are extended through the use of additional, more demanding assignments.

HEALTH AND SAFETY ISSUES IN D&T include:

Use of materials, tools and technology in accordance with health and safety requirements

Appropriate storage of tools and materials

Teaching pupils to recognise hazards in a range of products, activities and environments and take action to control the risks to themselves and others.

Assessment:

There will be a unit assessment at the end of the block of learning based on key learning objectives. Assessment will also take place informally through observation, open questioning, discussions and reviewing children's work. This information will be recorded on our school's foundation tracking sheets and shared termly with parents.

Evaluation. Monitoring and Review:

This policy is a working document and should be updated every two years. This policy was reviewed in the summer term 2022 and is due for another review in the summer term 2024. The subject lead is Bianca Cousin and the current governor with responsibility for Design and Technology is Mike Innerdale.

This policy was reviewed Summer 2022 and will be reviewed again Summer 2024.

Subject Co-ordinator: Bianca Cousin (Since September 2020)