



Design and Technology Policy 2021

Purpose of Study

The new national curriculum states: "Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, children 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. Children 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."

At St. Matthew's Bloxam C of E Primary School, we want our pupils to use of a broad range of skills and understanding to design and make products that solve real & relevant problems in a variety of contexts. This should also enable pupils to engage in enterprise activities.

Health and Safety

At St. Matthew's Bloxam C of E Primary School we take the Health and Safety of our children seriously. Children will be taught to use any tools, materials, equipment and apparatus in a safe and appropriate manner. They will be taught to consider their own safety and well-being, as well as for those who work around them. Children will be taught the correct storage of tools and equipment, particularly in the kitchen. Children will be supervised by an adult at all times. Teachers will teach proper and correct methods and use safe and tested equipment.

Food Safety and Hygiene

Food will always be stored properly when not in use. When working with food, all surfaces should be covered or thoroughly cleaned. Children and adults will wash their hands before and after handling any food products. All equipment used shall be washed after use. Children should be supervised in the kitchen at all times. Small groups of no more than 10 to be in the kitchen at one time.

Teachers must check the dietary needs of their pupils and identify any food which should not be available to specific children, e.g. allergies, vegetarian, halal, etc. A food preparation risk assessment form is located in the cooking area. Members of staff must read and sign the risk assessment before undertaking any cooking with their class.

Aims

The national curriculum for design and technology aims to ensure that all children:

- 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.

At St. Matthew's Bloxam C of E Primary School, we strive to provide learning opportunities for all our children to gain the basic knowledge and understanding. We strive to prepare children to take part in the rapidly changing world by creatively designing and making products that solve relevant problems and make positive changes to the quality of their life. We encourage our children to take the initiative and become creative problem solvers as individuals and as part of a team. To develop an understanding of technological processes and their manufacture, and their contribution to society. To encourage our children to think not only of their own needs but also the needs of others, by providing opportunities for our children to respond to developing ideas. We want our children to develop practical skills related to a variety of design and technologies, and develop an understanding of the artistic and environmental issues, as well as industrial practices. We aim to provide opportunities for our children to evaluate past and present design and technologies, their uses and impacts. Finally, we strive to foster enjoyment and satisfaction amongst our children, making the teaching and learning in design and technology purposeful.

Objectives

Key Stage 1:

When designing and making, children should be taught to:

- 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
- 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
- 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
- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key Stage 2:

When designing and making, children should be taught to:

- 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
- 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
- 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
- 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
- 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.

Teaching and Learning

At St. Matthew's Bloxam C of E Primary School, we use a variety of teaching and learning styles in Design and Technology lessons to appeal to the learning needs of our children. Teachers plan to ensure children apply their knowledge and understanding through the design, make and evaluate processes. Teachers adopt a mixture of whole-class teaching, individual or group activities. Children are given opportunities in lessons to work individually on their own project, or collaborate on a group project; where they respectfully listen to others ideas and develop their own knowledge. Children are given time to evaluate their own and others work critically. Teachers value the wide range of materials and resources, and make excellent use of these, including ICT.

Design and Technology at St. Matthew's Bloxam C of E Primary School should be taught through a combination of defined projects, discrete teaching of skills and through activities which are integrated within the learning of other National Curriculum subjects.

Inclusion

We recognise that in all classes there are children of differing ability. In line with the School's SEND Policy, each child will have equal entitlement to all aspects of the Design and Technology curriculum and experience the full range of Design and Technology activities. Therefore, we provide suitable learning opportunities and challenges which are matched to the ability of the child.

To achieve this, we use a range of strategies:

- using teaching assistants or additional adults to support the work of children in individual or small groups.
- grouping children by ability and differentiating the task
- grouping children in mixed ability groups to enable peer learning and support
- setting differentiated tasks
- setting open-ended tasks where the end result varies
- using differentiated questioning to extend learning and understanding

Planning

St. Matthew's Bloxam C of E Primary School follows the National Curriculum as it's basis for planning in Design and Technology. We have adapted the scheme to fit with the school's intentions. We use the locality of our school and topic plans as a

starting point. To ensure deep coverage, each year group carries out three Design and Technology units across the academic year, including one food technology unit.

Curriculum planning is carried out in long-term plans, medium-term plans and short-term plans. The long-term plan maps out the units covered in each year group across the key stage. The medium-term plans provide details of the learning to be carried out across the term. The short-term plans set out the weekly activities and aims for each lesson, however, short term planning is not monitored.

Our planning sets out to build upon the skills taught in the previous year group. This ensures continuity of the progression of skills as children move up through the school. Teachers are to refer to the progression framework set out by the design and technology association to help inform their planning and assessment.

Assessment

Children's work will be recorded in a shared Art and Design and Design and Technology sketchbook by the children themselves or pictures taken of the children working.

Self/ Peer-Assessment:

Where possible, teachers will teach and encourage children to self and peer-assess their work.

Formative Assessment:

Teachers will formatively assess children's work in Design and Technology by observing and engaging in discussion with them as they work. Children's progress will be recorded against the learning objectives and success criteria set out for each lesson by the teacher. Teachers will provide feedback in the form of verbal or written. Children will be assessed on their ability to: design, make, evaluate and their technical knowledge.

Summative Assessment:

Teachers will use a summative assessment grid to assess children's work in Design and Technology. Teachers will use their continuous formative assessment methods to inform their judgement. Children will be assessed against set criteria on their ability to design, make and evaluate their products, as well as their technical knowledge at the end of each Design and Technology unit.

The Design and Technology subject leader will keep photographic evidence of children's work in a file.

Resources

Our school has a developing range of resources to support teachers in teaching design and technology across the school. Specialised equipment and resources are kept in the Design and Technology cupboards. This equipment can be accessed under adult supervision by children. Classrooms may have a range of basic resources.

Monitoring

The Design and Technology subject leader will monitor books termly upon completion of a Design and Technology unit and collect photographic evidence of the children's work to ensure aims and objectives are being met.