



Blue Gate Fields Junior School

Design and Technology Policy

Policy details:

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Person (s) responsible for implementation and monitoring:

Sian Acreman (Head Teacher)

Signature (Chair of governors)

Signature (Head teacher)

Date:

The aim of this policy is to establish an agreed and consistent approach to the teaching of Design and Technology at Blue Gate Fields Junior School.

We teach Design and Technology because:







Design and technology prepares children to take part in the development of tomorrow’s rapidly changing world. Creative thinking encourages children to make positive changes to their quality of life. The subject encourages children to become autonomous and creative problem-solvers, both as individuals and as part of a team. It enables them to identify needs and opportunities and to respond by developing ideas and eventually making products and systems. Through the study of design and technology they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industrial practices. This allows them to reflect on and evaluate present and past design and technology, its uses and its impacts. Design and technology helps all children to become discriminating and informed consumers and potential innovators. Through the National Curriculum and ambitions beyond this framework, Design and Technology at Blue Gate Fields Junior School aims:

- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making;
- To enable children to talk about how things work, and to draw and model their ideas;
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- To explore attitudes towards the made world and how we live and work within it;
- To develop an understanding of technological processes, products, and their manufacture, and their contribution to our society;
- To foster enjoyment, satisfaction and purpose in designing and making

In order to develop Design and Technology capability in children we need to teach them how to plan, design, make and evaluate products in a range of materials. Children need to learn about materials and components, mechanisms and structures, how things are put together, how to use control effectively, to strive for quality and to work in safe ways. National Curriculum documentation provides the framework for our curriculum providing a structure through Programmes of Study for each Key Stage indicating what children need in order to develop Design and Technology capability.

We promote and develop Principles for Design and Technology and habits of mind:

Principles for Design and Technology

<p>1 problem solving </p> <p>Pupils are engaged in purposeful, reflective practical problem solving</p>	<p>2 taking ownership </p> <p>Pupils take collaborative ownership of the design and make process including taking ethical consideration</p>	<p>3 embracing failure </p> <p>Pupils embrace and learn from failure – they are resilient</p>	<p>4 curiosity and creativity </p> <p>Pupils are curious and creative; they have open minds</p>	<p>5 mastery </p> <p>Pupils demonstrate mastery from other curriculum areas - they are resourceful</p>	<p>6 personal capabilities </p> <p>Pupils draw on a range of thinking skills and personal capabilities</p>
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The Design and Technology process

Developing design ideas

Children will need to be taught how to:

- Generate ideas and clarify the task
- Develop and communicate ideas

Making

Children will need to be taught how to:

- Cut and shape
- Join and combine
- Apply a range of finishes

Throughout their designing and making children should plan and evaluate using a range of materials and related skills. Suitable materials should be:

- Paper and card
- Construction kits
- Food
- Textiles
- Modelling materials
- Wood, metal and plastic
- Reclaimable materials

Children will need to investigate structures and mechanisms to include:

- Stability and strength
- Wheels, gears and pulleys
- Pneumatics and hydraulics
- Different energy sources
- Ways to control movement

Children require a balance of teaching and learning inputs and a range of opportunities to demonstrate their capability. The range of activities should therefore include:

Focussed Task

- Practical tasks which focus on developing and practising a particular skill or knowledge.

Disassembly

- Practical activities, which allow children to investigate, disassemble and evaluate simple products.

Assignment

- Assignments in which children demonstrate their abilities to both design and make products using a range of materials and components.
- Opportunities to include IT Computing teaching inputs so children can use it in future projects.

Evaluation

- We encourage all children to evaluate own and each other's work against design briefs.

How do we plan and teach Design and Technology?

The National Curriculum

The Design and Technology taught at Blue Gate Fields Junior School complies with the requirements of the National Curriculum.

Curriculum Framework

Design and Technology is taught in 'blocks' of lessons that are led by an artist in residence and class teachers. Within each unit of work there should be the process of developing design ideas, making, evaluation and improvement.

Cross-Curricular Links

English

Design and Technology contributes significantly to the teaching of English at Blue Gate Fields Junior School by actively promoting the skills of vocabulary acquisition, reading, and writing, speaking and listening. Most lessons involve the children to research, plan, design, make and evaluate products which all involve Literacy skills. The children develop oral skills in Design and Technology lessons through discussions and through recounting their designs and evaluations of their product. They develop their writing skills through researching products, designing and evaluating and by recording information.

Mathematics

Design and Technology contributes to the teaching of numeracy in a number of ways. The children use measures and materials and learn to use and apply number. Through working on products they learn to estimate, predict and compare. They develop the skills of accurate observation and recording of events both in tables and graphically. They use numbers as they are making their products and evaluating.

Information and communication technology (ICT)

Children use ICT in Design and Technology lessons where appropriate. They use it to research products and support their work in D&T by learning how to find, select, and analyse information on the Internet.

Science

Aspects of learning in science are revisited and explored through design and technology applications. This provides opportunities for not only mastery in design and technology learning, but the science curriculum too.

Personal, Social and Health Education (P.S.H.C.E)

We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food. Furthermore, the teaching of design and technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves.

Art and Design

Design and technology uses skills related to art, for instance, using mediums in designing, making and decorating products.

Teachers should however be clear about the **Design and Technology learning** objectives they need to deliver.

Teaching and Learning:

The school uses a variety of teaching and learning styles in Design and Technology lessons. The principal aim is to develop children's knowledge, skills and understanding in design and technology. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products and then evaluating them. We do this through a mixture of whole-class teaching and individual/group activities. Within

lessons, we give children the opportunity both to work on their own and to collaborate with others, listening to other children's ideas and treating these with respect. Children critically evaluate existing products, their own work and that of others. They have the opportunity to use a wide range of materials and resources, including ICT.

At Blue Gate Fields Junior School we believe that children learn best when:

- They understand the learning intention of the lesson
- They have opportunities to negotiate how tasks can be successfully undertaken and completed.
- They have opportunities to discuss the meaning of key vocabulary.
- They are exposed to a variety of teaching approaches and strategies
- They have the opportunity to work practically and to investigate.
- They have the opportunity to experiment with a range of materials, products and tools.
- They have the opportunity to plan, make, evaluate and make further modifications from their evaluations.
- They work collaboratively in mixed (ability, gender, ethnicity) groups.
- They talk about their learning.

Our approach to teaching and learning is exemplified in the **teaching and learning policy**.

How do we record, report and assess Design and Technology?

Recording:

Children record their work in through writing; drawings and diagrams in floor books, class displays, photographs and blogs.

Reporting:

Progress in Design and Technology is reported verbally to parents during teacher-parent consultation meetings and in written form in the annual report to parents.

Assessment:

Assessment for learning is continuous throughout the planning, teaching and learning cycle. Additionally, children are assessed using a variety of methods:

- Observing children at work, individually, in pairs, in a group, and in classes.
- Taking feedback from children whilst working.
- Questioning, talking and listening to children.

- Considering work/materials / investigations produced by children together with discussion about this with them.

How do we ensure that all children get full and equal access to Design and Technology?

Lessons are adapted by each teacher to meet the individual needs of the children that they teach. Differentiation of the learning supports and challenges all children in the class, including children with special educational needs and disabilities. Large-print resources are prepared for children with visual impairments to enable them equal access to the learning. Visual displays with images next to key vocabulary supports children with English as an Additional Language. Teachers also model the correct use of new vocabulary and support the children to use it accurately in oral and written work.

As a school, we are committed to ambitious, aspirational learning for all.

Inclusion:

In school we aim to meet the needs of all our children by differentiation in our Design and Technology planning and in providing a variety of approaches and tasks appropriate to ability levels. This will enable children with learning and/or physical difficulties to take an active part in learning and practical activities and investigations and to achieve the goals they have been set. Some children will require closer supervision and more adult support to allow them to progress whilst more able children will be extended through differentiated activities. Particular care is taken when presenting technical vocabulary to children for whom English is an additional language. By being given enhancing and enriching activities, more able children will be able to progress to a higher level of knowledge and understanding appropriate to their abilities.

More able and talented children:

More able and talented children should be challenged by expecting them to; use more demanding sources, work with greater independence, use tools and materials with greater precision and communicate findings clearly and concisely using report structures and diagrams.

Boys and Girls:

We endeavor to promote equality of opportunity between boys and girls, by, for instance, ensuring equal opportunity to Design and Technology resources and promoting the lives of female and male technologists from diverse backgrounds.