

Matthew Arnold Primary School



Design and Technology Policy

Aims and objectives

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.

The aims of design and technology are:

- To develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing, making and evaluating;
- To enable children to talk about how things work, and to draw and model their initial and final ideas;
- To encourage children to select appropriate tools and techniques for making a product, whilst following safety 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.
- To understand the principles of a healthy and varied diet and know where food comes from.

Teaching and learning style

Matthew Arnold Primary 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.

In all classes there are children of differing ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies: setting common tasks that are open-ended and can have a variety of results; setting tasks of increasing difficulty where not all children complete all tasks; where appropriate grouping children by ability; providing a range of challenges through the provision of different resources; using additional adults to support the work of individual children or small groups.

Design and technology curriculum planning

Design and technology is a foundation subject in the National Curriculum.

We carry out the curriculum planning in design and technology in three phases: long-term, medium-term and short-term. The long-term plan maps out the units covered in each term during the key stage. The design and technology subject leader works this out in conjunction with teaching colleagues in each year group.

Our medium-term plans give details of each unit of work for each term. They identify learning objectives and outcomes for each unit, and ensure an appropriate balance and distribution of work across each term. Units are planned in strands to enable teachers to know the progression across the year groups, they know pupil's prior learning and can recap and consolidate this.

Teachers plan the activities in design and technology so that they build upon the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding. Planned progression within the units of work ensures that children are increasingly challenged as they move through the school.

The Foundation Stage

We encourage the development of skills, knowledge and understanding that help our children across our early years provision children make sense of their world as an integral part of the school's work. We relate the development of the children's expressive arts and design and their understanding of the world to the objectives set out in Birth to 5 leading to the Early Learning Goals. These underpin the curriculum planning for our children aged two to five. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools and products, developing problem solving skills, making skills and handling appropriate tools and construction material safely and with increasing control.

In the early years foundation stage we introduce the idea of planning and designing through communicating ideas verbally and recording with pictures and early writing marks. 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.

Contribution of design and technology to teaching in other curriculum areas

English

Design and technology contributes to the teaching of English in our school by providing valuable opportunities to reinforce what the children have been doing during their English lessons. The evaluation of products requires children to articulate their ideas and to compare and contrast their views with those of other people. Through discussion children learn to justify their own views and clarify their design ideas.

Mathematics

In design and technology there are many opportunities for children to apply their mathematical skills through choosing and using appropriate ways of calculating measurements and distances. They learn how to check their results of calculations for reasonableness and learn how to use an appropriate degree of accuracy for different contexts. Children learn to measure and use equipment correctly. They apply their knowledge of fractions and percentages to describe quantities and calculate proportions. The children will carry out investigations and in doing so; they will learn to read and interpret scales, collect and present data and draw their own conclusions. They will learn about size and shape and make practical use of their mathematical knowledge in order to be creative and practical in their designs and modelling.

Computing

We use computing to support design and technology teaching when appropriate. Children use software to enhance their skills in designing and making, and use draw-and-paint programs to model ideas and make repeating patterns. The children collect information and present their designs through draw-and-paint programs.

Personal, social and health education (PSHE) and citizenship

Design and technology contributes to the teaching of personal, social and health education and citizenship. 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.

Spiritual, moral, social and cultural development

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. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teach them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

Supporting Pupils with Additional Needs

Design and technology form part of our school curriculum policy to provide a broad and balanced education to all children; we teach design and technology to all children, whatever their ability. In Matthew Arnold we adapt the curriculum to enable children to:

- understand the relevance and purpose of learning activities
- experience levels of understanding and rates of progress that bring feelings of success and achievement

Teachers use a range of strategies to meet children's special educational needs. Lessons have clear learning objectives; work is differentiated appropriately and we use assessment to inform the next stage of learning.

We support children in a manner that acknowledges their entitlement to share the same learning experiences that their peers enjoy. Wherever possible, children are not withdrawn from the classroom situation.

Specific Learning Difficulties

All staff have regular training on approaches to consider when working with dyslexia learners and appropriate resources are available for pupils, teachers and LSAs.

Pupils with specific learning difficulties are taught and encouraged to present their work in a variety of ways, such as mind mapping, flow charts and labelled diagrams, both in class and for homework.

Assessment and recording

Teachers assess children's work in design and technology by making assessments as they observe them working during lessons. Some of this forms parts of display and the process may be recorded in the pupil's DT books and class floor books. They record the progress that children make by assessing the children's work against the learning objectives for their lessons.

At the end of a unit of work, teachers make a judgement against the new National Curriculum programs of study. Teachers then use their judgments so that they record to plan the future work of each child and to make an annual assessment of progress for each child, as part of the annual report to parents. Each teacher passes this information on to the next teacher at the end of each year.

Resources

Our school has a wide range of resources to support the teaching of design and technology across the school. Resources and specialised equipment is kept in the design and technology store and is only accessible to adults.

Health and safety

Safety is of paramount importance in design and technology teaching. It is the teacher's responsibility to be aware of safety issues in all design and technology activities by:

- Providing a safe working area (furniture, materials storage, tool maintenance)
- Teaching and implementing safety rules and good practice, including hygiene
- Ensuring the safe and correct usage of tools and materials
- Ensuring working areas are kept clean and tidy
- Considering storage of partially completed work
- Ensuring the correct disposal of waste

The teacher is responsible for ensuring that children are adequately supervised when using tools and that other adults working in the classroom understand safety rules and maintain rigorous safety standards. Safety rules and safety issues should be taught to all children within each design and technology unit of work.

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 design and technology subject leader. The work of the subject leader also involves supporting colleagues in the teaching of design and technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The subject leader will carry out regular book scrutiny, learning walks and pupil voice to review and improve out how design and technology is being delivered.

This policy is available in alternative formats on request