



Design and Technology Policy

Maximum Effort for Maximum Achievement

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.

We aim to develop in children an understanding of how to design and make things that work for a purpose. This will include looking at how everyday products have been designed, developed and manufactured to perform a given task or developed for a specific audience. Children are encouraged to develop their own confidence, independence and ability to work through the processes of designing and making products.

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 and making;
- To enable children to talk about how things work, and to draw and model their ideas;
- To teach skills and 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.

Curriculum Balance, Content and Progression

The skills taught include investigation and evaluation of manufactured objects and mechanisms, including their fitness for purpose; designing and making, including choice of appropriate materials and processes; use of appropriate tools; quality control and evaluation of their achieved objective. These skills are taught across the five strands of paper and card, textiles, food, mouldable materials and construction.

The Design and Technology Scheme of Work is based on the National Curriculum and is carefully planned to ensure that there is even coverage of skills across the key stage. Each year group has one unit of food technology. Design Technology is thematically planned to link with other subject areas.

Design and Technology skills based lessons do not necessarily have to lead to a made product. Teachers are able to choose how to deliver the Design and Technology aspect of their curriculum as long as the relevant skills are taught. Although there is no fixed time allocation for Design and Technology, it is expected that children should participate in Design and Technology based activities for a time allocation which approximates to 1hr 15 minutes a week. This total may be spread across the term, or taken in blocks, to suit the activity.

This flexibility in planning and timetabling supports teachers in delivering a dynamic and integrated curriculum tailored to the needs of each class.

Contribution of Design and Technology to teaching in other curriculum areas

Literacy

Design and Technology contributes to the teaching of Literacy in our school by providing valuable opportunities to reinforce what the children have been doing during their Literacy lessons. Discussion, drama and role-play are important ways that we now employ for the children to develop an understanding that people have different views about design and technology. 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.

Information and communication technology (ICT)

We use ICT 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. They use databases to provide a range of information sources and the internet to gain access to images of people and environments. The children also use ICT to collect information and to present their designs.

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 work as a team, to set targets, to manage their time and sequence events and to allocate tasks within a group. 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 teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

Development of skills

We try to develop and reinforce DT skills in other areas of the curriculum in order to maximise their development, e.g. when teaching capacity and volume, or reversible and irreversible changes to materials in Science, links may be made to food technology. DT can also be used as a way to apply their mathematical knowledge or problem solving skills. These can be used in the manufacturing process as well as in the identification of developmental areas of a product or feature from an original design.

Teaching and learning style

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.

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;
- grouping children by ability and setting different tasks for each group;
- using mixed ability groups to encourage team work;
- providing a range of challenges through the provision of different resources;
- using additional adults to support and/or extend the work of individual children or small groups.

Teaching Design and Technology to children with special educational needs

At our school we teach Design and Technology to all children, whatever their ability. Design and Technology forms part of the school curriculum which aims to provide a broad and balanced education to all children. Through our design and technology teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs to develop their skills. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

We enable pupils to have access to the full range of activities involved in learning design and technology. Where children are to participate in activities outside the classroom, for example, a museum or factory trip, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

Assessment/recording and Reporting

Medium and short term planning provides a record of coverage of the National Curriculum. Teachers assess children's work in Design and Technology by making assessments as they observe them working during lessons. They record the progress that children make by assessing the children's work against the learning objectives/skills focus for their lessons. At the end of a unit of work or activity, teachers make a judgement against the National Curriculum levels of attainment, or may use the level indicators for each strand that are included in the Scheme of Work. Teachers then use the levels 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.

Resources

Our school has a wide range of resources to support the teaching of Design and Technology across the school. Classrooms have a range of basic resources, with the more specialised equipment being kept in the DT Room. This equipment is accessible to children only under adult supervision.

Health and Safety

The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene. Details of the school's broader approach to health and safety can be found in the Health and Safety Policy. There are, however, practices that are specific to Design and Technology (and Art), that ensure the safety of pupils and staff.

- Suitable clothing such as aprons or old shirts needs to be worn to protect clothing (where necessary) during Design and Technology activities.

- Long hair should be tied back to keep it out of glue, tools, etc.
- Children must be taught to use sharp tools and equipment with care. They should be taught to consider their safety and the safety of those around them.
- All pupils and staff know what to do in the case of an accident and have access to First Aid boxes.

Mastery in DT

Effective mastery in Design Technology encourages all pupils to be resourceful and to explore and evaluate properties of materials to create a product.

Pupils are provided with ample opportunities to complete the Design Technology cycle which includes: research, design, creating a prototype, re-evaluate, creating a final product and evaluation. They are given time to reflect on their designs and prototypes to identify problems and seek appropriate solutions. Children are encouraged to evaluate their choice of materials and the making process, as well as work from their peers.

Pupils are encouraged to select tools to create their products independently based on their knowledge and reasoning of the design specification.

“Experts” are used in lessons to share specific skills to promote greater learning and understanding. As a result, children can apply facts and skills learnt to solve problems in the real world.

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 Design and Technology subject leader has special allocated, regular management time in order to review teachers’ long, medium and short term planning, to look at evidence of the children’s work and undertake lesson observations of design and technology teaching across the school.

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