



Design & Technology

November 2021

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Design and Technology (D&T) Policy

1 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 of 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.

Our objectives in the teaching 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 things;
- enable children to talk about how things work, and to draw and model their ideas;
- encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- explore attitudes towards the made world and how we live and work within it;
- develop an understanding of technological processes and products, their manufacture and their contribution to our society;
- foster enjoyment, satisfaction and purpose in designing and making things;
- develop the cross-curricular use of design and technology in other subjects.

2 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 or 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 to challenge and extend learning.
- sometimes grouping children by ability, and setting different tasks for each group;
- providing a range of challenges through the provision of different resources;
- using additional adults to support the work of individual children or small groups;
- providing specialist support where individual children have particular gifts or talents.

3 Design and technology curriculum planning

Design and technology is a foundation subject in the National Curriculum. Our school uses the national programmes of study as the basis for its curriculum planning in design and technology. We have adapted the national scheme to the local circumstances of our school in that we use the local environment as the starting point for aspects of our work. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit of work so that there is increasing challenge for each child as they move through the school.

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 subject leader gives suggested activities based on their theme/topic towards these learning objectives that the teachers can choose to use.

Our medium-term plans give details of each unit of work for each term they are recorded on the topic webs. They identify learning objectives and outcomes for each unit, and ensure an appropriate balance and distribution of work across each term.

Class teachers record design and technology lesson in their daily planning books. These list the specific learning objectives and expected outcomes for each lesson, and detail how the lessons are to be taught and how success will be measured. As the objectives are taught teachers tick it off their topic web to ensure they cover all objectives over the term. The class teachers and subject leader discuss specific lessons regularly and informally; often sending children with completed work to the subject leader to see.

We plan the activities in design and technology so that they build on the prior learning of the children. We give children of all abilities the opportunity to develop their skills, knowledge and understanding, and we also build planned progression into the scheme of work, so that the children are increasingly challenged as they move through the school.

4 The Early Years Foundation Stage

We encourage the development of skills, knowledge and understanding that help reception children make sense of their world as an integral part of the school's work. As the reception class is part of the Early Years Foundation Stage, we relate the development of the children's creativity and knowledge and understanding of the world to the objectives set out in the Early Learning Goals. These underpin the curriculum planning for children aged three 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 making skills and handling appropriate tools and construction material safely and with increasing control.

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.

5 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. Discussion, drama and role-play are important ways that we employ for the children to develop an understanding of the fact 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.

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 the 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.

Personal, social and health education (PSHE) and citizenship

Design and technology contributes to the teaching of PSHE 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 in which 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 cooperative 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.

6 Design and technology and ICT

Information and communication technology enhances the teaching of design and technology, wherever appropriate, in all key stages. Children use software to enhance their skills in designing and making things. Younger children are able to use simple desktop-publishing software to try out designs. Older children use an ICT control program to control mechanisms and to get them to move in different ways, either in a virtual world or via an infrared connection to working models. Children use computer-aided design (CAD) software as part of an investigation into packaging, before making their own. The children also use ICT to collect information and to present their designs through a range of design and presentation software.

7 Design and technology and inclusion

At our school, we teach design and technology to all children, whatever their ability and individual needs. Design and technology implements the school curriculum policy of providing a broad and balanced education to all children. Through our design and technology teaching, we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those who are More Able and Talented, and those learning English as an additional language, and we take all reasonable steps to achieve this. (For further details, see separate policies on Special Educational Needs, Disability Discrimination, More Able and Talented Children, English as an Additional Language (EAL).)

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Assessment against the National Curriculum allows us to consider each child's attainment and progress. This helps to ensure that our teaching is matched to the child's needs.

The work done by the children in design and technology may contribute to the targets set out in a support plan. Teachers will have regard to these targets when planning and designing tasks for lessons in design and technology.

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 on a factory trip, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

8 Assessment

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 for their lessons. At the end of the year teachers make a judgement against the National Curriculum levels of attainment. Older children are encouraged to make judgements on ways in which their work can be improved. 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 and carers. Each teacher passes this information on to the next teacher at the end of each year.

9 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 design and technology cupboard in the hall. Each classroom has an Art and DT box for children to use for independent projects, this is replenished by the subject leader on request annually. Cooking resources are kept in the Starlight Room which can be taken to the classroom or used in the Starlight Room. Teachers can sign up for a slot to use this designated cooking area.

10 Health and safety

In this subject, the general teaching requirement for health and safety applies. We teach children how to follow proper procedures for food safety and hygiene.

11 Monitoring and review

The coordination and planning of the design and technology curriculum are the responsibility of the subject leader, who also:

- supports colleagues in their teaching, by keeping informed about current developments in design and technology, and by providing a strategic lead and direction for this subject in the school;
- offers support and guidance to colleagues through demonstration lessons, team teaching and observations;
- gives the head teacher an annual summary report in which the strengths and weaknesses in design and technology are evaluated, and areas for further improvement are indicated.

The quality of teaching and learning in design and technology is monitored and evaluated by the head teacher as part of the school's agreed cycle of monitoring and evaluation.

This policy will be reviewed every three years or sooner if necessary.

Signed:

Date: