



Design and Technology Policy

Unicef Article 28: *"All children and young people have a right to a Primary education which should be free. Young people should be encouraged to reach the highest level of education they are capable of."*

1 Aims and Objectives

- 1.1 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, 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 use their critical faculties in the appraisal of manufactured goods and to become potential innovators.
- 1.2 The objectives of teaching 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;
 - to enable children to talk about how things work, and 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 and products, their manufacturer and their contribution to our society;
 - to foster enjoyment, satisfaction and purpose in designing and making things.

2 Teaching and learning style

- 2.1 The school uses a variety of teaching and learning styles in 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.

2.2 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;
- providing a range of challenges through the provision of different resources;
- using additional adults to support the work of individual children or small groups.

3 Design and technology curriculum planning

3.1 Design and technology is a foundation subject in the National Curriculum. Our school uses the QCA scheme of work as the basis for its curriculum planning in design and technology. We have adapted the QCA scheme to the local circumstances of our school in that we use the local environment as the starting point for aspects of our work, and QCA as a springboard for ideas. We follow the skills progression in QCA but allow ourselves the flexibility to change activities to suit different schemes or topics and interests.

3.2 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.

3.3 Our medium-term plans, which we have adopted and adapted from the national scheme, 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.

3.4 Class teachers also complete a plan for each design lesson. These list the specific learning objectives and give details of how to teach the lesson and steps to success the children will need to achieve to meet the learning objective. The class teacher keeps these plans, and steps to success as well as learning objectives are shared with the children throughout each lesson. At times the co-ordinator will monitor work throughout the school by looking at displays, children's plans and finished work.

4 The Foundation Stage

4.1 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 Foundation Stage of the National Curriculum, as we relate the development of the children's 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 and making skills and handling appropriate tools and construction material safely and with increasing control.

- 4.2 We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities both indoors and outdoors, attract the children's interest and curiosity.

5 Contribution of design and technology to teaching in other curriculum areas

5.1 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 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 how 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 (PSCHE) 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 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

- 6.1 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. The children also use ICT to collect information and to present their designs through a range of design and presentation software. It is also an important tool for accessing information when exploring a variety of products. It helps us to look at the design of products and their development over time as well as their uses today.

7 Design and technology and inclusion

- 7.1 At our school we teach design and technology to all children, whatever their ability and in 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 and those with special gifts and talents, and we take all reasonable steps to achieve this. For further details see separate policies: Special Educational Needs; and Gifted and Talented.
- 7.2 When progress falls significantly outside the expected range, the child may have 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 against expected levels. This helps ensure that our teaching is matched to the child's needs.
- 7.3 Intervention through School Action and School Action Plus will lead to the creation of an individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to design and technology.
- 7.4 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 class room, for example in 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 for learning

- 8.1 We assess the children's work in Design and Technology while observing them working during lessons and assessed against the learning set of objectives set for the lesson. Older children may be encouraged to make judgements about the way in which their work can be improved, although this is in itself a skill which requires maturity and will develop over time with guidance and encouragement.

9 Resources

- 9.1 Our school has a 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 key stage 2, in the cupboard and near the workbench.

10 Health and Safety

- 10.1 In this subject the general teaching requirement for health and safety applies. We monitor potentially dangerous equipment carefully and try to ensure specific teaching on the use of certain tools or materials as well as, where appropriate or possible, a higher ratio of adult support whilst using such equipment. We also teach children how to follow proper procedures for food safety and hygiene.

11 Monitoring and review

- 11.1 The monitoring of the standards of children's work and of the quality of teaching in Design and Technology is the responsibility of the subject leader. The work of the subject leader also involves supporting colleagues in their teaching, being informed about current developments in Design and Technology, and providing a strategic lead and direction for this subject in the school. The subject leader reviews and evaluates the action plan, budget and planning annually.

MH - 21.06.11

To be Reviewed every 2 Years

Reviewed October 2011

Next Review Due Summer 2013

Design and Technology Overview

Areas Covered in 2011 / Planned for 2012

	Autumn Project	Main Skills Focus	Spring Project	Main Skills Focus	Summer Project	Main Skills Focus
Reception	Nursery Rhymes	Construction Junk Modelling Jigsaws Xmas Decs – cutting skills	Weather	Kite Making Parachute Aeroplanes Paper folding Weather Charts	Sea Plants & animals (wheelbarrow)	Clay Fish Floating Boat Paper weaving
Year 1	Xmas Decorations	Cutting Folding Split pins Moving parts Designing	Houses & Homes Making houses out of cardboard boxes	Cutting Folding Decorating Moving parts Designing	Ourselves Mod Roc People Clay minibeasts	Moulding Bending Designing Copying Accurately Food Prep
Year 2	Puppets	Sewing Skills Threading	Florence Nightingale Bugs	Moving Vehicles Clay Bugs	Islands	Making an Island out of paper Machè/building up layers
Year 3	Moving Pirates & ships	Sliders & Split pin Moving parts	3D Photo frames	Structures -standing up	Sandwiches Packing WW2 vehicles	Food tech Creating nets Wheels & axles
Year 4	Card with stories Moving parts	Pop-up Slides, flaps Folding Planning	Diwali Lamps Making Insulating Containers	Clay Moulding Planning Researching selected materials	Victorian model village using circuits	3D boxes Cutting Measuring Researching

Food Technology Overview

	Autumn Food Tech	Skills	Spring Food Tech	Skills	Summer Food Tech	Skills
Year 1					Preparing food for fruit salad. Designing and preparing	Cutting, grating, peeling, juicing etc
Year 2	Christmas Cookies	Mixing, baking	Easter Nests	Mixing, Melting	Picnic food – eg making sandwiches	Hygiene
Year 3			Easter Biscuits Viking Recipes Soup/Scones	Chopping, Mixing	WW2 Recipes Sandwiches	Various – Old fashioned measuring, foods eg dried milk
Year 4	Egyptian Recipes Drink & Sweets	Measuring, Mixing, Moulding	Indian Week Cooking – Mango Lassi	Chopping, Mixing, Measuring	Leavers Picnic	Chopping, Mixing, Measuring, Following Recipes