An Overview of Design and Technology at Norfolk Primary School

Design and Technology helps to prepare the children to join in our worlds ever developing technologies. It should teach the children to think creatively, to solve problems alone or as part of a team. It should teach them to develop their ideas sensibly and accurately culminating in an end product. They should learn practical skills including the safe and sensible use of tools. It should be exciting, inventive, creative, safe and fun.

Design and technology lends itself to working as part of a team. Within the group anyone can be a 'leader' everyone's ideas and suggestions are equally important and valued. This gives support, encouragement, personal satisfaction and a sense of achievement.

Children should discover that faults and problems in designs or products can be overcome, that products can be changed, amended or improved, that this is acceptable and not a failure. The children should be encouraged to discuss their ideas, to talk about how, why and what they are going to do.

Above all the children's knowledge should be consolidated and improved through practical, manageable, safe and enjoyable demonstrations and practical activities.

Basic Skills

It is essential that children are able to practice and extend their basic skills in Literacy and Numeracy through each curriculum area and this is acknowledged to be an integral part of the learning and teaching process at Norfolk Primary School. Children use the literacy and Numeracy skills in problem solving activities, they learn to communicate their ideas and designs, there are many opportunities for speaking and listening.

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 and eventually making products and systems.

1.2 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.

1.3 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 encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures;
- to build on their early experiences of investigating objects around them;
- to investigate and evaluate a range of familiar products,
- to foster enjoyment, satisfaction and purpose in designing and making.

2 Teaching and learning style

2.1 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.

2.2 Within lessons, we give children the opportunity both to work on their own and to collaborate with others. They are encouraged to listen to other children's ideas and treat 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.

2.3 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. At Norfolk Primary School, we use the QCA schemes of work as the basis for our 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.

3.2 We carry out the curriculum planning in Design and Technology in three phases: long-term, medium-term and short-term. Our long-term plan maps out the themes

covered in each term during the key stage through the curriculum overview. This is reviewed annually by the Design and Technology subject manager in conjunction with teaching colleagues in each year group.

3.3 Our medium-term plans, which we have adopted from the national scheme, give details of each unit of work for each term. These plans define what we will teach and ensure an appropriate balance and distribution of work across each term. The Design and Technology subject manager is responsible for keeping and reviewing these plans.

3.4 The class teacher plans for specific learning objectives to be taught each week. Teachers are responsible for keeping these plans. They are used as a focus for discussion between subject manager and class teacher as part of the review process.

3.5 We plan the activities in Design and Technology so that they build upon the prior learning of the children. While we give children of all abilities opportunity to develop their skills, knowledge and understanding, we also build planned progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

4 The Foundation Stage

4.1 We encourage the development of skills, knowledge and understanding that help nursery and reception children make sense of their world as an integral part of the school's work. As the reception classes are part of the Foundation Stage of the National Curriculum, 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 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, 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, drama and role-play are important ways that we 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.

5.2 Information and communication technology (ICT) We use lCT 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 CD-ROMs to gain access to images of people and environments. The children also use ICT to collect information and to present their designs through draw and-paint programs.

5.3 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.

5.4 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.

6 Teaching design and technology to children with special needs

6.1 We teach design and technology to all children, whatever their ability.
Design and technology also forms part of our school curriculum policy to provide a broad and balanced education to all children. Teachers
provide learning opportunities that are matched to the needs of children with learning difficulties and the more able. Work in design and
technology takes into account the targets set for individual children in their Individual Education Plans (IEPs).

7 Assessment and recording

7.1 Teachers assess children's work in Art and Design by making informal judgements as they observe them during lessons. Assessment is continuous and judgements are made and recorded against the Foundation Stage Profile (FSP) or National Curriculum. At the end of a unit of work, the teacher makes a summary judgement about the work of each pupil in relation to the National Curriculum level of attainment. We use this as the basis for assessing the progress of the child and we pass this

information on to the next teacher at the end of the year. This form of assessment also allows teachers to make informed comments to parents about the progress made by individual children and to set targets for future work.

7.2 The art and design subject manager keeps evidence of the children's work in a portfolio of photographs of displays and significant work. This demonstrates what the expected level of achievement is in art and design in each year of the school. Teachers meet regularly as a team to review individual evidence of children's work against the national exemplification material produced by the QCA and the DfES.

8 Resources

8.1 Our school has a wide range of resources to support the teaching of design and technology across the school. All teaching areas have a range of basic resources, which are available to the children when safe and appropriate. The more specialised equipment is kept in the design and technology store. This cupboard is accessible to children only under adult supervision.

9 Health and safety

9.1 The general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for the safe and correct use of tools and equipment, and in aspects of food safety and hygiene.

10 Monitoring and review

10.1 The monitoring of the standards of the children's work and the quality of teaching is the responsibility of the Design and Technology subject manager. The Design and Technology subject manager is also responsible for supporting colleagues in the teaching and delivery of Design and Technology, for keeping informed about current developments in the subject and for providing a strategic lead and direction for the subject in school.

10.2 The headteacher allocates regular management time to the Design Technology subject manager so that she can review samples of children's work and undertakes lesson observations of DT teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of Design and Technology. This governor meets with the subject manager to review progress.

10.3 The Design and Technology subject manager is responsible for providing the Governors and headteacher with a report in which she evaluates the strengths and weaknesses in the subject. Producing an action plan for Design and Technology, which indicates areas for future improvement, further enhances this process.

D/T LONG TERM PLANNING

	Aut. 1	Aut. 2	Spr.I	Spr.2	Sum.1	Sum. 2
F2	**Junk modelling. Select & create designs. Playdough. Baking.**	**Nativity people. Playdough. Cutting/sticking. Junk modelling. Baking.**				
Y1	**Box modelling. Plasticine. Salt dough. Baking.**	**Colour wheels. Baking.**	**Playgrounds. Q.C.A.**	**Homes Q.C.A.**		
Y2		**Nuffield Design Technology KS1 Roly-Poly (Links with Science- Forces).**				**Nuffield Design Technology KS1 Fridge Magnets (Science: Health & Growth)**
Y3		**Packages Q.C.A.3A**		**Food Q.C.A.3B Link to Science Healthy Eating.**		
Y4		**Photograph frames.Q.C.A.3b (Literacy Instructions)**		**Sandwich Snacks Q.C.A.3B (Healthy Teeth& Eating)**		**Moving Monsters Q.C.A.3C**
Y5		**Biscuits Q.C.A.5D**		**Making Musical Instruments. Q.C.A.3C**		**Moving Toys Q.C.A.**
Y6						**World Food & Sense of Place.**