



Blackwell Primary School – Design and Technology Policy

1 Aims

The design and technology teaching at our school is geared towards enabling each pupil to develop within their capabilities; not only the product design and making skills and understanding required for later life, but also an enthusiasm and fascination to develop creative thought about the design process and its role in the world.

We aim to help the pupils to:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to evaluate the qualities of food through food tasting panels and how to cook.

2 Design and Technology Curriculum Planning

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

- Long-term planning is mapped out, detailing topics to be covered each term.
- Medium term planning can be found on the MTP's on the server
- Short term planning is done to ensure consistency.

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.

3 Teaching styles and strategies

Through careful planning and preparation, we aim to ensure that throughout the school, children are given opportunities for:

- The development of knowledge, skills and understanding in Design and Technology.
- The use of construction materials to gain understanding of mechanisms.
- Evaluating existing products.
- The disassembly and analysis of existing products to see how they work.
- Planning and developing their own ideas within a given brief.
- Gaining experience and understanding of how to work safely with resistant materials.
- Evaluating and improving their products.
- Critiquing products under development by other children and suggesting how they can make them "even better". (Austin's butterfly theory)
- Metacognitive thinking about the processes of learning and developing new and improved ideas.
- Self- evaluation of the learning process and the quality of the final finish of their made products.
- Use a wide range of materials and resources including ICT.
- Creating products within family projects at home and bring them in to celebrate and share with others.

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.

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.

4 The Foundation Stage

We encourage the development of skills, knowledge and understanding that help Foundation children make sense of their world as an integral part of the school's work. 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 The contribution of design and technology to teaching in other curriculum areas

5.1 English

Design and Technology contributes significantly to the teaching of English by actively promoting the skills of reading, writing, speaking and listening. The children develop oral skills in design and technology through discussions when working as part of a team, through planning and making products together and as individuals. They evaluate products by articulating their ideas and comparing and contrasting their views with those of other people. They develop their vocabulary through the increased use and understanding of technological language which is then extended to writing about and evaluating the products they have made.

5.2 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. In food technology the children will be encouraged to weigh out ingredients and in doing so they will learn to read and interpret scales. 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.

5.3 Science

In our school we believe that there are many natural links between Science and Design and Technology particularly where mechanisms are being taught. Where natural links occur, teachers will use the opportunity to teach the science behind the product, particularly when it will enhance the children's understanding and ability to build their products. Children will also be encouraged to test products for strength and durability under a scientific investigative process in order to inform and then evaluate.

5.4 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.

5.5 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.

5.6 Information and Communication Technology

Computing enhances the teaching of Design and Technology, wherever appropriate, in all key stages. Children may use software to enhance their skills in designing and making things. The children also use computing to collect information and to present their designs through a range of design and presentation software.

5.7 Art

Children are encouraged to present their work using art techniques and labelled diagrams. They are encouraged to present their plans in a highly visual format.

6 Assessment and Recording

Work in Design and Technology may be assessed through judgements of recorded work but a large proportion of assessment is involved with practical application and language development involving discussion, description and explanation skills. Evidence may be seen most commonly through 3-D models and photographs of children's work. Photographic evidence is collected by teachers to assess Design and Technology in school. Examples of work are shown to the subject leader in order to monitor the quality of product design and the making process. Information on a child's progress in Design and Technology will be communicated to parents in a written report at the end of each academic year.

7 Resources

7:1 Resistant materials, tools and construction kits

There is a selection of unit-based and centrally-stored materials and tools and construction kits to ensure that all children have the necessary resources to access the subject and to make informed choices.

7:2 Food technology resources

We have a fully functioning kitchen in the foundation stage which can be used by all children at the convenience of the foundation staff and children. Ingredients for food technology projects will be organised by the class teacher. Children may be charged the net cost of ingredients, where children are undertaking an enterprise project they will cost and supply materials for themselves.

8 Food Hygiene and Other Safety Issues

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 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.

Teachers teach the safe use of tools and equipment and insist on good practice prior to starting the making part of a task. However, safety issues do arise when teaching this subject. These include:

- The use of electrical equipment such as glue guns
- The handling of food stuffs
- The use of cooking appliances, including ovens and hobs
- Contact with sharp objects including wood, nails, needles, saws etc.
- Awareness of personal safety (jewellery, hair, eye protection)

It is the duty of all staff to:

- Recognise and assess the hazards and risks to themselves and others when working with food and other materials
- Take action to control these risks and hazards

Teachers should be aware of the following:

- Children must not use cooking appliances unless under direct supervision from a responsible adult.
- Saws and other sharp objects (nails, needles, craft knives, etc.) must be used under direct supervision. The teacher will make a judgement on the undertaking of activities involving sharp and/or potentially dangerous equipment depending on the age/ability of the children in his/her class. Some activities may be undertaken by an adult or in a small group or one to one situation as appropriate.
- Perishable foodstuff must be stored sensibly and refrigerated if necessary. Care must be taken to ensure food is not used after the given sell by date
- Teachers and adult support staff must oversee that cupboards, table tops, cooker etc., are clean and in working order
- Children must wash their hands before and after any contact with food and other potentially harmful substances
- Teachers must take into account possible food allergies to food such as nuts and should be aware of the location of any medication for the allergy.

9 Differentiation

Children deserve to be set appropriate learning challenges, to be taught well and be given the opportunity to learn in ways that maximise the chances of success, we recognise the need to tailor our approach

to support children with special educational needs as well as those who are identified as gifted and talented.

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 with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this.

10 Monitoring and Review

10:1 It is the responsibility of the Design and Technology coordinator to monitor the standards of children's work and the quality of teaching and learning in Design and Technology. The coordinator is also responsible for supporting colleagues in the teaching of Design and Technology. Strengths and weaknesses are evaluated and areas for further improvements are indicated by the coordinator. The coordinator can request specific time when needed to perform important pertinent tasks to move the subject forward.

This policy will be reviewed every three years.