

Britannia Community Primary School

Policy on Design and Technology

I 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. 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.
- 1.2 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;
 - 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 explore attitudes towards the made world and how we live and work within it;
 - to develop an understanding of technological processes and products, their manufacture and their contribution to our society;
 - to foster enjoyment, satisfaction and purpose in designing and making things;
 - to develop the cross-curricular use of design and technology in other subjects.

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 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;

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- grouping children by ability, and setting different tasks for each group where necessary;
- 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

- 3.1 Design and technology is a foundation subject in the National Curriculum. Our school uses the skills listed in the National Curriculum as the basis for its curriculum planning in design and technology. We also use the KAPOW scheme to support our planning. The progression skills produced by KAPOW are also used for monitoring.
- 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. The subject leader works this out in conjunction with teaching colleagues in each year group.
- 3.3 Our medium-term plans, give details of each unit of work for each term. They identify learning objectives and the skills being taught, and ensure an appropriate balance and distribution of work across each term.
- 3.4 Where appropriate the class teachers may complete a daily plan for each a design and technology lesson. 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. The class teacher keeps these individual plans, and the class teacher and subject leader often discuss them on an informal basis. This may not be appropriate if the design and technology skill is being covered within another curriculum area. Teachers will annotate daily plans with key vocabulary and highlight key questions they intend to cover in each lesson.
- 3.5 We give children of all abilities the opportunity to develop their skills, knowledge and understanding. To ensure progression Britannia CP school follows the Lancashire progression guidance, so that the children are increasingly challenged as they move through the school. Further information about school coverage is with the subject co-ordinator.
- 3.6 At the start of each unit, the children will be given a key person linked to the skill they are learning. They will study this artist and their work in order to develop their skills and produce work in the style of them.
- 3.7 Our school teaches topic lessons in block units. As a teaching team, we have created a long term plan which ensures all the key learning statements are planned for across the year. By teaching topics in blocked units, the children are able to be fully immersed in the topic which is expected to produce a higher standard of 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, 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 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.

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. 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.

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 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

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- 7.1 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 with special gifts and talents, and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details, see separate policies: Special Educational Needs; Disability Discrimination; Gifted and Talented Children; English as an Additional Language (EAL).
- 7.2 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, and 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 to 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 classroom, e.g. 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 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 a unit of work, teachers make a judgement against the National Curriculum expectations and Lancashire's progression in skills. 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. Teachers will submit termly assessment sheets to the subject leader. Teachers will also complete yearly assessments at the end of each academic year on Sonar.

9 Resources

- 9.1 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 store. This room is accessible to children only under adult supervision.

10 Health and safety

- 10.1 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. When using tools such as saws and other equipment that may have the potential to be dangerous, the children are made aware of how to use the equipment safely and will use this equipment under close supervision. Small groups will often be used to teach the skills which require children to use equipment which needs a higher level of support due to health and safety.

11 Monitoring and review

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

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- supports colleagues in their teaching, by keeping informed about current developments in design technology, and by providing a strategic lead and direction for this subject in the school;
- gives the headteacher an annual summary report in which s/he evaluates the strengths and weaknesses in design technology, and indicates areas for further improvement;
- uses specially allocated regular management time to review evidence of the children's work, and to observe lessons of design technology across the school.

11.2 The quality of teaching and learning in design and technology is monitored and evaluated by the headteacher as part of the school's agreed cycle of lesson observations.

11.3 This policy will be reviewed at least every two years.

Signed: J.Pacey

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