Priestsic Primary and Nursery School

Design and Technology Policy

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 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 consider their audience and become discriminating and informed consumers and potential innovators.

The aims of Design and Technology are –

- To develop imaginative and innovative thinking in children and to enable them to talk about and reflect upon what they like and dislike when designing and making.
- To enable children to talk about how things work, and to draw, model and refine their ideas and be versatile problem-solvers.
- To encourage children to select appropriate tools and techniques for making a product, whilst following safe procedures.
- To provide opportunities for children to review and evaluate their work in order to make future modifications and improvements.
- To explore attitudes towards the modern world and how we live and work within it.
- To develop an understanding of technological processes, products and their manufacture and their contribution to our society.

Teaching and Learning Style

The school uses a variety of teaching and learning styles in design and technology lessons. The principal aim is to develop children's creativity, adaptability, 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. 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 computing programs.

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 children. 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.
- 'Fluid grouping' of children and setting engaging and appropriately-challenging tasks
- Providing a range of challenges and activities through the provision of different resources.
- Using additional adults to support the learning of individual children or small groups.
- Maximising opportunities for cross-curricular links with other subject areas.

Design and Technology Curriculum Planning

Foundation Stage, Key Stage 1 and Key Stage 2

Design and Technology is a foundation subject in the National Curriculum 2014. The subject is first introduced in the Foundation Stages; where there is a particular emphasis on food exploration and tasting and discovering how things work through structured play. In Key Stages 1 and 2 our school currently combines elements from The National Curriculum with appropriate and relevant topics from Focus Education 'Learning Challenge Curriculum.' We deliver our aims and objectives for Design and Technology as a discrete subject. However, where possible, projects and topics are forged and linked with units of work in other curriculum areas.

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 specific Design and Technology focus covered in each year group, in each term during the key stage. The design and technology subject leader works this out in conjunction with teaching colleagues in each year group.*(See appendix A)*
- Our medium-term plans, supported by DATA's 'Projects on a Page' (Focus Education) resource, 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. *(See subject co-ordinator file)*
- Class teachers plan for individual Design and Technology sessions (or days) or even 'blocked weeks' as part of weekly planning. There is flexibility for when and how

different year groups deliver the subject; provided that the coverage is met during the course of the school year. The weekly plan lists the specific learning objectives for each lesson and detail how the lessons are to be taught.

- We plan the activities in Design and Technology so that they build upon 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.

The Foundation Stage

We encourage the development of skills; knowledge and understanding that help Foundation Stage children make sense of their world as an integral part of the school's work. We relate the development of the children's understanding of the world to the objectives set out in the EYFS Development Matters document. 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, both indoors and outdoors, attract the children's interest and curiosity.

Contribution of Design and Technology to Teaching in Other Curriculum Areas

By its nature, Design and Technology is a subject that links well with many other curriculum areas such as Science, Art, Maths, History, Geography and Music. Where a topic or theme in one subject 'fits' strands from The Design and Technology National Curriculum or elements of Focus Education Learning Challenge Curriculum; a cross-curricular approach will be used. Having said this, Design and Technology remains a discrete and important subject in its own right and the emphasis is **always** on developing children's **knowledge** and **skills**.

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. 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.

Computing

We use computing 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 and 'Scratch' to model ideas. They use databases to provide a range of information sources; CD-ROMs; and the internet to gain access to images of characters, people and

environments. The children also use computing to collect information and to present their designs through draw-and-paint programs.

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.

Spiritual, moral, social and cultural development (SMSC)

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.

Assessment and Recording

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. End of the year teachers will assess children's progress against the Design and Technology Programme of Study for their key stage and use this information to inform the annual report to parents. Each teacher passes this information on to the next teacher at the end of each year.

Teaching Design and Technology to children with Special Educational Needs

At our school we teach Design and Technology to all children, whatever their ability. Design and Technology forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Design and Technology teaching we provide learning opportunities that enable all pupils to make progress.

- **Children with learning difficulties / disabilities**
  Where possible, through the use of appropriate support and differentiation, children with SEN will be working towards the same learning objectives as their peers. From time to time, those working well below the level of the whole class may be working towards related objectives chosen from the relevant aspect of learning from an earlier year. Those children with special needs may be given additional support or extra teaching in small groups to help them achieve their targets. Lower attaining pupils should have access to a wide range of practical resources to help develop thinking and understanding in the subject.

- **Children who are gifted and talented**
  Children who are working well above the overall level of the class will be given a range of experiences designed to broaden or deepen their learning while working on the same learning objectives as their peers. This may be done by providing more demanding questions and investigations, often with a more open-ended approach. From time to time they may also be accelerating the pace of their learning by working towards objectives chosen from the relevant aspect of learning from a later year.

- **Children learning EAL**
  Children learning English as an additional language may need support in developing language and concepts. Through the use of appropriate support and differentiation EAL pupils experience the same level of cognitive challenge as their peers.

- **Equal Opportunities**
  All children have an equal opportunity regardless of gender, race or ability, to progress and succeed in their learning and understanding. We pay particular attention to ensuring there is no gender bias in tasks or materials or in access to resources, including Information Technology. In fact we take care to ensure that take a positive approach in the subject to counter stereotyping. Teachers should pay attention to the equal distribution of their questions across all groups. Any displays and references to Design and Technology in society should show positive role models of gender, race, ethnicity and disabilities.

Resources

Our school has a wide range of resources, tools, materials and equipment to support the teaching of Design and Technology across the school. Audits, stock-takes and orders are carried out regularly; as are checks and inspections of tools and equipment. Classrooms have a range of basic resources, with the more specialised equipment being kept in the Design and Technology cupboards located in KS2. *(See subject co-ordinator file for detailed lists)*

Health and Safety

While individual class teachers must judge for themselves whether or not their class is able to use a particular resource the general teaching requirement for health and safety applies in this subject. We teach children how to follow proper procedures for food safety and hygiene and safe handling of tools and equipment.

Monitoring and Review

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