

## Priestsic Primary and Nursery School

### Design and Technology Policy



#### Intent

Design and Technology prepares children to take part in the development of tomorrow's rapidly changing world. Using creativity and imagination our pupils design, make and evaluate their products considering the needs of themselves and others. They think about the purpose of their design, considering the materials available and the target user. They acquire a broad range of practical and problem-solving skills whilst also consolidating skills taught in other subject areas such as Mathematics, Science, Computing and Art. Through our Design and Technology curriculum, pupils learn how to be innovative and enterprising citizens of the future. Throughout our DT curriculum, we will celebrate our school drivers of diversity, aspiration, vocabulary and health and well-being.

#### Our Design Technology curriculum develops pupils who:

- are inspired and engaged through practical lessons that provide opportunities to apply their mathematical, scientific and computing knowledge within high-quality, creative outcomes
- recognise that real life problems can be solved by designing, making and adapting products, thus positively impacting their own lives and the wider world
- feel confident and equipped with the knowledge, vocabulary, understanding and skills to design and make high quality products that consider the needs and wants of the end user, in a range of contexts
- understand the importance of being constructively critical to evaluate and test products in line with a range of design criteria.
- understand the importance of a healthy and nutritious diet and learn how to safely prepare and cook a range of dishes

#### Curriculum Implementation

Our curriculum planning has been designed so that Design and Technology is taught independently and progressively. This is taught through a wide range of opportunities and enrichment activities which allow for cross curricular learning. This enables learners to see their

“big picture” of their learning and to make connections across Design and Technology and other subjects.

DT is based on units of work and projects which are designed and adapted to suit the class and their current topic. The structure is as follows:

- DT may be taught either in blocked weekly sessions or in a condensed two or three day time frame where appropriate; for example, when cooking, this may be better suited to a condensed time frame whereas making moving cars would be better taught over a period of weeks. Individual class teachers will decide whether or not their topics will be taught over a period of weeks or whether to teach it in a condensed period.
- In each series of DT lessons, children will experience an evaluation task, preferably of an existing product or process, a series of focused practical tasks which will develop the skills necessary for the children to carry out the D&M task (Designing and Making). This might be looking at actual existing products or researching products via computer search engines.
- The emphasis in Reception is for children to be encouraged to examine and talk about everyday objects and give possible reasons for why things are made the way they are.
- They will also be given opportunities to handle and use a wide range of materials, developing their knowledge and understanding of these through practical design and make activities.
- Opportunities are provided for each child to experience construction/model making, graphic media (ICT), textiles and food technology.

## Design and Technology Curriculum..

### Early Years

In Early Years, Design and Technology is taught through daily conversations, adult-led activities and child-led activities. The children are encouraged to utilise materials that are readily available within the classroom to design and create pieces of work that are either based on previous mini-teaching sessions or their own imagination. In the Foundation Stage, Design and Technology makes a significant contribution to developing a child's understanding of the world through activities such as design, imagination, creativity and fine-motor skills.

### Key Stage One

The National Curriculum Programme of Study of Key Stage 1 focuses on developing the key skills and building on from the Early Learning Goals. Children will be taught the knowledge and skills needed to engage in an interactive process of designing and making; applying what they have learnt to create an end project with a specific purpose and user in mind. Creative and practical activities will be planned and delivered through a range of relevant contexts, in order to support such application of knowledge and skill. Children will begin to create a simple design criteria, communicating their ideas through discussion and drawing.

Pupils should be taught to:

- Design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and where appropriate, information and communication technology.
- Select from and use a range of tools to perform practical tools, for example; cutting, shaping, joining and finishing.
- Select from and use a wide range of materials and components, including construction materials, textiles and ingredients according to their characteristics.
- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.
- Build structures explaining how they can be made stronger, stiffer and more stable.
- Explore and use mechanisms in their products, for example; levers and pulleys.
- Use the basic principles of a healthy and varied diet to safely prepare dishes.
- Understand where a range of food comes from.

## Key stage 2

The National Curriculum Programme of Study at Key Stage 2 aims to continue building on the Design and Technology skills and knowledge that has been acquired throughout Key Stage 1. Similarly to KS1, children will develop their knowledge and skills through relevant contexts. Children will design, make and evaluate projects based on consumer awareness; creating design specifications based on research of needs and requirements of a particular individual or group. Children will be encouraged to generate, develop and communicate their ideas through more sophisticated ways of planning such as; discussion, annotated sketches, prototypes and computer-

aided design. Evaluation of their own and existing products will have a bigger focus, as they use this to inform subsequent projects and learn about the impact of key designers, manufactures and chefs, on the modern world.

Pupils should be taught:

- How to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose and aimed at particular individuals or groups.
- How to generate, develop and model ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer aided design.
- To select and use a wide range of tools and equipment to perform practical tasks accurately.
- To select from and use a wide range of materials and components, including construction materials, textiles and ingredients according to their functional properties and aesthetics.
- To investigate and analyse a range of existing products.
- To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- To understand how key individuals and events in D&T have helped shape the World.
- How to apply their understanding of how to stiffen, strengthen and reinforce more complex structures.
- To understand and use mechanical systems in their products, for example; levers and linkages.
- To understand and use electrical systems in their products, for example; circuits incorporating switches and buzzers.
- To apply their understanding of computing to program, monitor and control their products.
- To understand and apply the principles of a healthy and varied diet.
- How to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.
- To understand seasonality and know when where and how a range of products are grown, reared, caught and processed.

### Assessment for Learning

Teachers assess children's work in design and technology as they observe them during lessons. At the end of a unit of work teachers make a judgment using the school's assessment materials which are linked to the National Curriculum levels of attainment. Children will be assessed on if they are developing, secure or exceeding these key

objective and skills so their skills can be developed the next time they revisit the area of the subject. Children are also encouraged to make judgements on how their work can be improved. Teachers then use this to plan future work and to make an annual assessment of progress for each child, as part of the annual report to parents. This information is passed on to the next teachers at the end of the year.

### 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.

### 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.