

Design and Technology Policy

Statement of Intent

At St. George's C of E Primary and Nursery School all children follow a broad and balanced curriculum.

Design and technology offers children a chance to use creative thinking and activity within a defined purpose and tangible outcome. It can be found in many of the objects children use each day and is a part of children's immediate experiences.

As a subject, design and technology combines skills, knowledge, concepts and values to enable children to tackle real problems. It can improve analysis, problem solving, practical capability and evaluation skills.

Our aims in the teaching of design and technology are to allow pupils to:

- Develop design and making skills.
- Develop knowledge and understanding.
- Use a wide range of tools and materials.
- Learn about health and safety and protective measures.
- Work individually and within a group in a variety of contexts.
- Develop the capability to create products of a high standard through skills and understanding.
- Promote creativity and innovation.
- Explore the man-made world and encourage discussion of how we live and work within it.
- Develop an interest in and understanding of technological processes and the role of manufacturing in society.
- Learn the principles of nutrition, healthy eating and how to cook.

The Foundation stage

The Foundation Stage focuses on the skills needed to complete construction materials and food hygiene topics in readiness for Key Stage 1 curriculum. A wide variety of activities are planned throughout the year based around children's interests and their personal areas of development.

The National Curriculum prescribes that at **Key Stage 1 and 2** pupils should be taught:

The knowledge, understanding and skills needed to engage in processes of designing and making, and work in a range of relevant contexts.

The National Curriculum Key Stages 1

Design

- Design purposeful, functional and 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.

Make

- Select from and use a range of tools and equipment to perform practical tasks accurately.
- Select from and use a range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate

- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.

Technical knowledge

- Build structures, exploring how they can be made stronger, stiffer and more stable.
- Explore and use mechanisms, such as levers, sliders, wheels and axles, in their products.

Cooking and nutrition

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

The National Curriculum Key Stage 2

Design

- To use research and identify criteria to inform the design of innovative, functional and appealing products that are fit for purpose, aimed at particular individuals or groups.
- To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design (CAD).

Make

- Select from and use a wider range of tools and equipment to perform practical tasks accurately.
- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Evaluate

- Investigate and analyse a range of existing products.
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- Understand how key events and individuals in design and technology have helped to shape the world.

Technical knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.
- Understand and use mechanical systems, such as gears, pulleys, cams, levers and linkages, in their products.
- Understand and use electrical systems, such as series circuits incorporating switches, bulbs, buzzers and motors, in their products.

Cooking and nutrition

- Understand and apply the principles of a healthy and varied diet.
- Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.

- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Subject planning

The school uses a two level planning system: short and medium.

Medium-term plans are more detailed plans for what will be taught during each term. They include the way the subject will be taught, resources needed/used and the assessments that will be undertaken to ascertain improvement and inform future planning.

Short-term plans are the day-to-day plans teachers use to outline what will happen during the week, the organisation of the lesson and the role of the adult. In addition, they include detailed learning objectives and outline the teaching and learning activities to be undertaken including differentiation, resources and assessment opportunities.

Teaching

Principles for effective teaching include:

Setting tasks in the context of pupils' prior knowledge.

Promoting active learning.

Inspiring, exciting and motivating pupils to know more.

Strategies for effective teaching include:

The use of a variety of teaching methods including, whole class work, small group study, investigative work, practical work and individual study.

Ensuring the method used suits the purpose and needs of the children.

Providing a meaningful context and clear purpose when assigning tasks.

Including investigative, disassembly and evaluative activities.

Using focused practical tasks to help the children make and evaluate products.

Ensuring tasks are built on skills and understanding.

Learning environment

Activities are organised at the teacher's discretion and according to the availability of materials. Design and technology activities may be carried out individually, as a small or large group, or as a whole class activity.

Teachers will make provision for varying learning styles to be utilised.

Assessment and recording

Teacher assessment in design and technology can measure many different aspects within the design process. Teachers will assess pupils':

- Knowledge of tools, materials and equipment.
- Ability to record and communicate their design ideas in a clear manner
- Personal qualities and attitudes towards their work.
- Ability to explain what they have created and how.
- Ability to use tools and materials safely and effectively.
- Ability to evaluate both their work and the work of others.
- The majority of assessments conducted will be through observation and discussion.
- Assessments will be recorded in the year end reports to parents.
- A selection of work may be retained as evidence or photographed for this purpose.

The subject leader

The school's appointed subject leader will oversee the continuity of the subject and the progression of teaching and learning within medium-term plans.

They will monitor the quality of teaching and the standard of work produced.

Evidence will be kept from year to year.

The subject leader will offer support to colleagues and share their expertise and experience.

They will encourage staff and pupils to be creative and advise teachers on teaching methods they may wish to explore.

Resources

Each classroom has basic design and technology resources maintained by the individual teachers.

Food technology resources are kept in the Nursery's kitchen, Key Stage 1's wet area.

Health and safety

Certain health and safety concerns are inherent with design and technology, including the storage of materials and tools and the use of equipment within lessons.

Children are instructed in the correct use of equipment and tools and the specific dangers of using heated or sharp resources.

Children are supervised at all times during activities.

A risk assessment covering the use of saws and other sharp tools, along with heated tools, such as glue guns, has been conducted and is updated as needed.

Children are only allowed to use a lower temperature glue gun under 1:1 supervision. An adult must use a glue gun at all other times. The use of glue guns will be considered alongside all viable alternatives such as adhesive tapes, blue tack, string and other fasteners, to ensure the most suitable materials are used for each project.

A fire safety blanket must be kept with the cooker at all times.

If cooking is taking place in the classroom, the cooker must be returned in a suitably clean and tidy condition after use.

Children must follow hygiene procedures and obey rules during cooking sessions.

Equal opportunities

Equal opportunities are addressed in the whole school Equality Policy and care is taken in design and technology lessons to ensure all pupils are provided opportunities to experience the range of activities on offer.

Differentiation takes into account special educational needs and physical development that may affect learning.

Contribution of design and technology in the core curriculum

English

Design and technology encourages children to ask questions about the starting points for their work. They learn to compare ideas and approaches and to express their feelings.

Maths

Design and technology allows children opportunities to develop their understanding of shape, pattern, space and dimensions.

I.T

I.T is used to provide children with additional equipment, extending the possibilities for developing, recording and sharing their work.

PSHE

In design and technology lessons children are taught to discuss how they feel about their own work and the work of others.

Design and technology offers opportunities for social development. Working in groups allows children to learn from each other and to share ideas and feelings

Design and technology helps them to develop a respect for the abilities of other children and encourages collaboration.

Policy review

This policy will be reviewed at the end of a two year period in consultation with the Headteacher and teaching staff. Unless driven by National Policy.

Policy should be read in conjunction with SEN Feedback and marking, Equality Policy and Health and Safety. D S Smith