

ST LUKE'S C.E. PRIMARY SCHOOL



DESIGN AND TECHNOLOGY POLICY

Rationale

At St Luke's Primary School we believe that Design and Technology is important because it encourages pupils to learn to think and intervene creatively to solve problems both as individuals and as members of a team. Children develop technical understanding and making skills, learn about design methods and investigate their environment and the materials around them. The nature of design and technology is such that it should provide opportunities for pupils to engage in activities that are challenging, relevant and motivating. This should give pupils enjoyment, satisfaction and a sense of purpose.

Aims

At St Luke's Primary School we aim to offer opportunities for children to

- develop imaginative thinking in children and to enable them to talk about what they like and dislike when designing and making.
- 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, products, and their manufacture, and their contribution to our society.
 - to foster enjoyment, satisfaction and purpose in designing and making.
- to understand and apply the principles of a healthy diet.
- to understand where food comes from and the issues of seasonality.

Knowledge and understanding

All pupils are encouraged to

- Generate ideas through discussion and experimentation

- Extend knowledge and understanding of a wide range of materials, including construction kits, textiles, food, wood, plastic, and reclaimed/junk materials.
- Work within groups and as individuals.
- Make use of drawings and models to communicate their ideas.
- Evaluate their work and identify strengths and weaknesses in a positive way.
- Experiment with simple components, mechanisms and structures.
- Learn about health and safety aspects when working with a variety of materials and tools.
- Consider risk to themselves and to others and build up a knowledge and understanding of the dangers inherent in certain products and tools.
- Experience design technology through off-site visits, where practicable, in order to see technology used in a real environment.

Role of the Subject Leader

The role of the subject leader is to;

- advise and support staff in planning teaching and learning of design and technology
- monitor teachers' planning as part of on-going subject monitoring and evaluation of practice
- use feedback from monitoring to develop an action plan for Design and Technology with realistic and developmental targets
- audit, identify, purchase and organise all art resources, ensuring they are readily available and well maintained
- document and review the agreed ways of working through a written policy document and scheme of work
- compile a portfolio of children's Design and Technology work to evidence progression and examples of good practice for staff to refer to
- keep up-to-date on the use of Design and Technology in the curriculum
- promote Design and Technology throughout the school

Teaching and Learning

The Foundation Stage

The different aspects of the arts and design are encompassed within Creative Development in the Foundation Stage Curriculum, however elements can also be found in other areas of learning (Understanding the world, Physical development, Literacy and Mathematics). This curriculum lends itself to an integrated approach to learning. Nursery and Reception teachers plan quality learning opportunities for art and design using the Early Years Curriculum. There is an emphasis on independence and self-initiated learning, which enables foundation stage children to freely explore resources and pursue their own creative interests and talents in addition to the planned learning experiences.

Key Stages 1 and 2

Staff use a variety of teaching and learning styles in design and technology lessons. The principal aims are to develop children's knowledge, skills and understanding in design and technology and food preparation. Teachers ensure that the children apply their knowledge and understanding when developing ideas, planning and making products, and then evaluating them. This is done through a mixture of whole-class teaching and individual or group activities. Within lessons, children are given 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.

Resources

Primary resources e.g materials, sewing equipment and construction kits are stored centrally in the DT cupboard. It is important to ensure that resources are labelled, tidy and ready for use. There is a DT cupboard located in Reception which contains the saws, drills and other controlled tools and equipment. Resources are regularly audited and updated by the DT subject leader.

Health and safety

Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.

Children need to be taught how to

- use tools and equipment correctly • recognise hazards and risk control Children should be
- strictly supervised in their use of equipment at all times.
- taught to respect the equipment they are using and to keep it stored safely while not in use.
- taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions. Food Hygiene
- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food.

Equal opportunities

Equal opportunities are considered when we decide upon the resources we provide and the teaching strategies we employ. In our curriculum planning we ensure that all children, with due respect to their culture, religion and background, have equal access to all areas of the curriculum, extra curricular activities, all areas of the grounds, equipment and resources, the staff, and time to contribute to the whole class and group work.

Differentiation

The teaching of Design and Technology needs to take into account the varied abilities, attitudes and individual needs 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
- providing a range of challenges through the provision of different resources
- using additional adults to support the work of individual children or small groups

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.

Assessment and recording

We assess children's work in design and technology by making informal judgements as we observe them during each lesson. On completion of a piece of work, the teacher responds to children's work, identifying areas for development. At the end of each year a written report is given to parents about their child's achievements in design and technology.

Programme of Study for Design and Technology

Key stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- 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

Make

- select from and use a range of tools and equipment to perform practical tasks [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

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 [for example, levers, sliders, wheels and axles], in their products.

Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to:

Design

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

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], 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 shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

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