St. Margaret's Anfield Church of England Primary School

Jesus said, "Love one another as I have loved you" John 13:34. Therefore, by faith and work, be the change you want to see.

With God, all things are possible.

Policy for Design and Technology

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Version	Date	Action	Review Date
Version 1	February 2023	Adopted by Governing Body	February 2024
Version 2	March 2024	Reviewed and adopted by FGB	March 2025

Introduction

This policy outlines the teaching and learning of Design and Technology in St Margaret's Anfield CE Primary School. We believe that the development of Design and Technology capability is important in preparing all pupils for citizenship in an ever-increasing technological world. The ability to use technological skills is a vital life skill in modern society. We believe that using these skills in a purposeful way provides the opportunity to extend and enhance teaching and learning experiences in the National Curriculum as a whole. Design and Technology can motivate and promote self-esteem and confidence in all pupils.

Purpose of Study

According to the National Curriculum (2014), Design and Technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

The Nature of Design & Technology

Design and Technology is a practical subject and should always involve the children in designing and making things that work. Children should be given the opportunity to develop their design and technology capabilities through:
- 'Iterative' designing and making of products in a variety of contexts;
- Practical tasks which allow them to develop their knowledge, understanding and skills;
- Activities in which they investigate and evaluate processes and products.

Aims and Purposes of Design and Technology

Design and Technology is a practical subject that offers opportunities for children to:

- Communicate their ideas and thoughts in a variety of ways;
- Understand and apply the principles of nutrition and learn cooking skills;
- To develop design and making skills, knowledge and understanding to create high quality products to the best of each child's ability;
- Nurture and develop creativity and innovation through designing and making as individuals and members of a team;
- Foster enjoyment, satisfaction and purpose in designing and making things;
- Design, make and evaluate their own and pre-made products within a variety of contexts and with different users in mind;
- Develop an understanding of technological processes, products, and their manufacture, and their contribution to our society.

Design and Technology Objectives

In Design and Technology, children acquire and apply knowledge and understanding of food, textiles, structures, mechanisms in KS1 and food, textiles, structures, mechanical systems, electrical systems in KS2.

The fundamental skills, knowledge and concepts of the subject are set out in the programmes of study in the following areas:
- Design
- Make
- Evaluate
- Technical knowledge
- Food and Nutrition

At St Margaret's Anfield, Design and Technology helps children to:
- Develop knowledge and understanding of Design & Technology through research, designing, making, investigating and evaluating, and through the practice and development of skills;
- Develop their designing skills by drawing on their own experience and information sources to generate and present their ideas;
- Develop their making skills, by selecting appropriate tools and materials and developing increasing high standards of accuracy and finish;
- Acquire and refine the practical skills associated with making, including working with materials and components, tools and processes, e.g. planning, measuring and marking out, cutting and shaping, joining and combining, finishing, and evaluating;
- Develop knowledge and understanding of mechanisms and materials and how they can be controlled and changed, using the appropriate vocabulary.

Language and Communication:
- Develop language skills through questioning, describing and explaining, presenting their own ideas using different kinds of writing suitable for different audiences and through discussion, e.g. of their ideas, of existing products, and of their work and that of others;
- Use technological, scientific and mathematical language including appropriate technical vocabulary and drawing, e.g. diagrams and charts, to communicate ideas and findings;
- Develop drawing skills, e.g. sketching and formal drawing, and practise specific skills in relation to symbols and conventions;
- Seek information and data, and determine what is valuable and what can be used in their work, e.g. nutritional information, research results, trend analysis;
- Read non-fiction texts and extract information e.g. from reference books, CD-ROM's and the Internet;
- Use correct and precise language.

Values and Attitudes:
- Work both independently and with others, listening to others' ideas and treating these with respect;
- Can be creative, flexible and show perseverance;
- Critically evaluate existing products, their own work and that of others;
- Develop a respect for the environment and for their own health and safety and that of others;
- Recognise the strengths and limitations of a range of technologies and appreciate which are appropriate for particular situations;
- Develop their cultural awareness and understanding and appreciate the value of differences and similarities;
- Develop an understanding that all people are equal regardless of age, race, gender or ability and that there needs to be alternative solutions to meet the needs of individuals and groups of people;
- Find enjoyment, satisfaction and purpose through designing and making; apply value judgements of an aesthetic, economic, environmental, moral, scientific development; creative development and knowledge and understanding of the world.

Early Years

Design and technology is taught within the 'Expressive Arts and Design' area of learning. The early learning goals for Expressive Arts and Design indicate what children should know, understand and be able to do by the end of the reception year. Design and technology enables learners to gain knowledge and understanding of their world (UTW/PSED). Children in Nursery and Reception will have opportunities to find out and learn about the world they live in. These experiences will include:

- asking questions about how things work, e.g. everyday objects, people, the environment;
- talking about what they are doing and what they have discovered;
- learning about a variety of customs and cultures;
- responding to drawings and pictures and drawing their own;
- investigating and using a variety of construction kits, materials, tools and products;
- using a range of materials to express ideas;
- exploring colour, shape, texture and form;
- selecting their own resources and tools for specific tasks/activities;
- developing making skills, e.g. cutting, folding, mixing, joining, and building for a variety of purposes;
- handling appropriate tools and construction materials safely and with increasing control.

Children will experience creative opportunities and develop key skills and techniques within the EYFS curriculum and throughout continuous provision. Children in the EYFS will undertake investigative and skills based tasks during independent, child-led activity time.

National Curriculum

By the end of each Key Stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. The National Curriculum requirements can be accessed here – National curriculum programmes of study.

Planning and Organisation

At St Margaret's Anfield, there is a Design and Technology focus in each term, taught throughout the school using a scheme of work called Kapow. Kapow aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. Through the Kapow scheme of work, children are supported to build an awareness of the impact of design and technology on our lives.

The Design and Technology Kapow scheme of work is aligned with the National Curriculum aims, expectations and attainment targets, enabling children to succeed. It also supports the journey, inspiring children and young people to create, experience, and participate in great arts and culture.

The national curriculum outlines the three main stages of the design process: **design, make and evaluate**. Each of the key areas follows the design process and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum.
Kapow Primary provides full coverage of the EYFS, KS1 and KS2 Design and technology curriculum and is categorised into six areas, with four strands that run throughout:
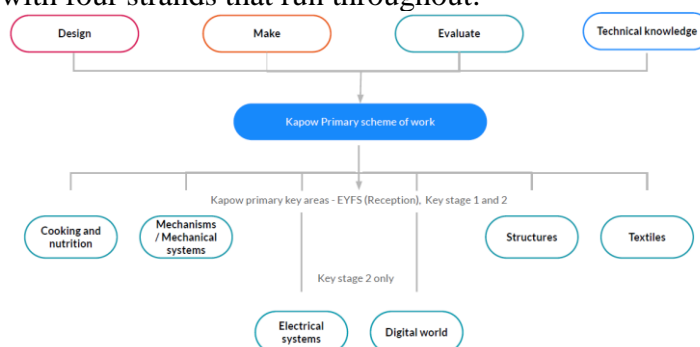
The Kapow scheme is a spiral curriculum, with key areas revisited with increasing complexity, allowing pupils to revisit and build on their previous learning.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons are accessible to all pupils and opportunities to stretch pupils' learning are available when required.

Progression in Design and Technology

At the early stages of developing capability, children should be able to:

- generate and develop ideas through talking about what their design has
- to do, handling materials and, where appropriate, drawing;
- increasingly take account of people's needs and wants;
- reflect more on their ideas;
- draw what they have made;
- recognise and begin to select suitable tools and materials;
- apply their previous knowledge and experience;
- suggest achievable ways forward and begin to suggest improvements to their own models.

As children make progress, they should:

- become more involved in finding out information useful to their designing and use their experience of products and applications as the stimulus for ideas;
- use 2D and 3D models to try out and develop ideas as they become more reflective about their designs;
- suggest an increasing number of achievable ways forward and develop simple plans which take into account the resources available;
- start combining and shaping materials to create products which meet their intentions;
- use tools safely and with increasing accuracy.

As children make further progress, they should:

- use a variety of information sources for their research, and set criteria for their designs, which increasingly take account of the views and preferences of the intended user;
- become more familiar with techniques, e.g. brainstorming and product analysis to generate ideas, and have a clearer sense of priorities in their design proposals;
- use a range of modelling techniques and be able to justify the decisions they make;
- plan and evaluate in a more considered manner, and show a greater awareness of constraints and the implications of their designs;
- draw upon a greater range of techniques and skills to create quality products for identified purposes;
- become increasingly competent at matching how they work to the materials and the task.

Features of Progression
Progression in design and technology can be characterised by:
- An increase in knowledge, skills and understanding;
- Moving from familiar to unfamiliar concepts;
- Meeting needs which demand more complex or difficult solutions;
- An increase in a child's own understanding of their learning.

Equal opportunities

We believe that it is important for all children to experience the range of design technology activities. We will use opportunities within design and technology to challenge stereotypes.

All children will be encouraged and supported to develop design and technological capability through a range of materials. We recognise the importance of identifying the specific difficulties that individual children might have in teaching and organisational strategies can be adopted.

Health and Safety

The school agrees to abide by statutory health and safety guidelines as outlined by the LEA. Regular checks will be undertaken to ensure compliance with legal requirements. In general, teachers will always teach the safe use of tools and equipment and insist on good practice. Staff are responsible for returning the tools and equipment to the technology cupboard when they have finished with them.

Cool melt glue guns will be used by Key Stage 2 children under supervision only when there is no other appropriate joinery technique. This must be done under supervision in small groups.

Food- hygiene and safety

When delivering cooking and nutrition lessons safe food handling is essential and of high priority. The Whole School Food and Nutrition Policy should be followed at all times. The teacher delivering the lesson should ensure that provision has been made for pupils who require special diet due to medical conditions, a diagnosed food allergy or religious or ethical beliefs.

Teachers and adult support staff will oversee that cupboards, table tops, cooker etc. are clean and in working order. Appropriate clothing will be worn by adults and children when necessary (aprons, disposable gloves etc) and they are always to follow strict hygiene principles. Hands are to be washed using anti-bacterial hand-wash before the preparation of any foods.

Cross curricular themes and PSHE

Design and technology involves children drawing upon knowledge and skills from other curriculum areas, particularly English, Mathematics, Art, Science, Geography and History, In design and technology children will be encouraged to work in their peer groups so that they develop skills of co-operation, discussion and social interaction. Health and safety issues remain vital areas for discussion in all projects.

Resource Management

The school:
- is committed to reviewing the position and use of technology resources;
- will ensure the efficient deployment of existing resources;
- is committed to updating and renewing their replacement when necessary, considering further purchasing to meet future needs.

Assessment

The class teacher will:
- Present evidence of children's development through children's Design and Technology sketchbook, collecting photographic and practical work of each project undertaken;
- Assess each project against the National Curriculum level descriptors;
- Complete termly formative assessments using our school assessment system and following the school assessment policy;
- Report individual progress to parents at the end of each academic year.

Role of the subject leader

The subject leader will:
- Lead the development of Design and Technology on the school;
- Monitor the standards of children's work and the quality of teaching;
- Provide/ deliver staff CPD and training when necessary;
- Provide guidance to individual members of staff;
- Keep up to date with local and national developments in Design and Technology and disseminate relevant information;
- Order stock linked to the planned units of work at the end of each term;
- Be responsible for the organisation and maintenance of resources.

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