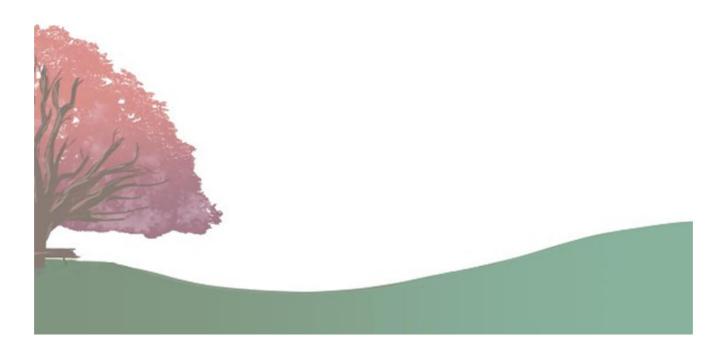## Christ Church CE VC Primary School

"Together we learn - Together we grow - Together we flourish"

Some seeds fell on good earth and produced a harvest beyond wildest dreams.

Matthew 13:8

Design and Technology Curriculum Policy

Agreed date: January 2023
Review date: January 2026

Our School Vision:

Together we learn – Together we grow – Together we flourish
'Some seeds fell on good earth and produced a harvest beyond wildest dreams.' Matthew 13;8
Life at Christ Church is underpinned by the Christian values of community, respect and stewardship which help us to all:

Learn:

By,
- Feeling and being safe and happy in our school and its grounds
- Developing a love of learning
- Enjoying a rich, broad and balanced curriculum
- Challenging ourselves to be the best we can be
- Being supported to be mentally well
- Ensuring ethics, morals and values underpin school life
- Having a culture of high expectations and excellence
- Welcoming parents and carers as partners in children's learning
- Having a close relationship with our church and strong links with our community
- Taking pride in our grounds and learning environment
- Learning from each other and sharing best practice
- Developing the knowledge, skills and understanding needed to equip us for the next stage in life
- Understanding and learning about how to be a good citizen

Grow:

By,
- Understanding and celebrating diversity
- Developing our spiritual, moral and cultural awareness
- Improving and innovating through continual self-reflection
- Making the most of opportunities
- Taking pride in and celebrating our achievements and those of others

Flourish:

By,
- Getting involved in local, national and global issues
- Experiencing exciting and enjoyable wider experiences
- Becoming caretakers of the world

Design and Technology Curriculum Intent

Learn
At Christ Church we aim to give each child the opportunity to question, investigate, problem solve, make and evaluate through Design and Technology projects which help them to answer questions about the world they live in.

When designing and making, the children are 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 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, as well as chopping and slicing) accurately.
• select from and use a wider range of materials, ingredients and components, including construction materials, textiles and ingredients, according to their functional properties, aesthetic qualities and, where appropriate, taste.

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.
• understand and use electrical systems in their products.
• apply their understanding of computing to program, monitor and control their products
• Understand some of the ways that food can be processed and the effect of different cooking practices (including baking and grilling).

Grow

Children will build upon their skills as they progress through the school drawing on their knowledge of Maths, Science, Computing and Art to help them to create and design imaginatively when approaching practical problems. They will be encouraged and supported to become innovators and risk-takers who can learn from mistakes and know how to make changes to improve their work.

Flourish

We hope to foster inquisitive minds, and guide our children to become resourceful, innovative, enterprising and capable citizens who will one day pave the way for becoming the engineers, designers and builders of the future.

The school follows the 2013 primary national curriculum programmes of study for design and technology in Key Stages 1 & 2:

Curriculum definition

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.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world

- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users

- critique, evaluate and test their ideas and products and the work of others

- understand and apply the principles of nutrition and learn how to cook.

Attainment targets

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.

Design and Technology- Key stages 1 and 2

Subject Content

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

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

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

Key stage 2

- 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.

Objective

At Christ Church we aim to give each child the opportunity to question, investigate, problem solve and evaluate through Design and Technology projects which help them to answer questions about the world they live in. We hope to foster inquisitive minds which will one day pave the way for becoming the engineers, designers and builders of the future. Children will build upon their skills as they progress through the school drawing on their knowledge of Maths, Science, Computing and Art to help them to create and design imaginatively when approaching practical problems.

Teaching and Learning Style

Design and Technology activities are taught in a variety of ways across Christ Church Primary School, sometimes in blocks of taught time, as part of a topic, as a Design and Technology day or across a term with skills-based activities where necessary. Design and Technology has relevance across the curriculum and links with other subjects throughout the school. The school follows the Kapow Primary condensed curriculum.

In the Foundation stage, Design and Technology is taught in a hands–on and child led way following the guidance in the Early Years Foundation Stage Curriculum. The Foundation Stage carries out three projects per year. Activities are planned using the Kapow scheme and adapted to teach in line with our early years pedagogy. The children are given the opportunity to find out about the world they live in and the role Design and Technology plays within it through a number of ways.

- Asking questions about how things work
- Investigating and using a number of construction kits, materials, tools and products.
- Developing making skills.

The wide range of Design and Technology experiences the children encounter in the Foundation Stage provides a good basis for future learning in Design and Technology in Key Stages 1 and 2.

Key Stages 1 and 2 - Every class carries out five Design and Technology projects per year, one of which will be a food-based project. Basic skills are introduced and then built upon with a spiral curriculum which revisits knowledge and skills through each key stage. We ensure that each unit in our Design and Technology curriculum gives

children the opportunity to design, make and evaluate whilst also focusing on technical knowledge.

Equal Opportunities
We are committed to providing a teaching and learning environment that allows all children to thrive and reach their potential. All teachers provide suitable learning opportunities for children, recognizing that many children have individual needs and ensuring these needs are catered for in Design and Technology lessons. This includes providing adult support and appropriate equipment and materials to enable all children to access the Design and Technology curriculum. Teachers are aware of children who have a particular talent for Design and Technology and aim to provide additional challenges for these children where appropriate.

Inclusion
Children with special educational needs or disabilities will be differentiated for and supported appropriately, to ensure development of skills and equal access to the Design and Technology curriculum. All children will be supported through differentiation, adaptation or adult support, to enable equal access to learning in Design and Technology. Resources will reflect a range of cultures and the diversity of our school, locality and wider communities.

Design and Technology curriculum planning
Design and Technology is a foundation subject in the National Curriculum. At Christ Church Primary School, Design and Technology is taught through the teaching of well-planned lessons using the National Curriculum and unit plans provided by Kapow Primary as the basis for our curriculum planning, particularly with regard to skills progression.

The school follows the Kapow Primary condensed curriculum which provides coverage of six key areas- cooking and nutrition, mechanisms and mechanical systems, structures, textiles, and in KS2, electrical systems and the digital world. These areas are revisited in increasing depth and building on the children's prior knowledge.

There is a progression of skills for Design and Technology in place from EYFS through to Year 6. Coverage has been mapped out for each year group. Teachers use the Kapow Primary condensed curriculum and extensive resources provided by Kapow when planning. The plans demonstrate what skills children should be expected to learn. When necessary, teachers adapt and differentiate Design and Technology lessons to suit the needs of the learners within their class.

Assessment and recording

Achievement, success and progression should be experienced by all children when learning and being taught Design and Technology. The teacher needs to be aware of the progress being made, difficulties being experienced, misconceptions addressed and expectations being met. Children should be supported at each stage of the Design and Technology curriculum in areas of: designing, making, evaluating and developing technical knowledge.

We assess the children's work in Design and Technology whilst observing them working in lessons. The Kapow scheme includes learning objectives and offers opportunities to monitor progress through both formative and summative assessments. Work collated in big books, individual Design and Technology booklets and photographs of process and final products are used as evidence of progress. The Design and Technology subject leader monitors attainment throughout each Key Stage in order to evaluate the teaching and learning of Design and Technology.

Health and Safety

Safety is of paramount importance in Design and Technology. It is the teacher's responsibility to be aware of safety issues in all Design and Technology activities by:

- Providing a safe working area (furniture, materials storage, tool maintenance)
- Teaching and implementing safety rules and good practice, including hygiene
- Ensuring the safe and correct usage of tools and materials
- Ensuring working areas are kept clean and tidy
- Considering storage of partially completed work
- Ensuring the correct disposal of waste

The teacher is responsible for ensuring that children are adequately supervised when using tools and that other adults working in the classroom understand safety rules and maintain rigorous safety standards. Information about health and safety is included in the Kapow Primary resources.

Roles and responsibilities

The subject is led by the Design and Technology subject leader who is responsible for reviewing and updating policies relating to Design and Technology and the co-ordination of long term planning and assessment. Monitoring curriculum coverage and skills progression is also the responsibility of the Design and Technology subject leader. They will ensure that tools and resources in a central store are available for teachers to use and also be available to offer advice and support across the school. The Design and Technology subject leader will promote and raise the profile of Design and Technology throughout the school.

It is the teacher's responsibility to ensure that they are delivering exciting and inspiring Design and Technology lessons to the children in their care. Teachers must also ensure that they are setting the highest standard during Design and Technology lessons.

<u>Resources</u>
Class teachers will be aware of the resources needed for a particular Design and Technology unit and will order any resources required for their class. Some permanent resources are stored in school (such as cooking equipment) and are available from the Design and Technology drawer units in the Maths storage room, in agreement with the Design and Technology Coordinator. Other resources may be stored within individual's classrooms and shared throughout school when required.

<u>Contribution of Design and Technology to teaching in other curriculum areas</u>
Links to other subject areas should be encouraged by teachers. Advice is provided in the Kapow primary resources.

Lisa Morling
Subject leader for Design and Technology

Christ Church CE (VC) Primary School