Cop Lane C.E Primary School

Design & Technology Policy - March 2023

This policy is embedded in our school's mission statement and distinctive Christian vision:

A welcoming Christian community, committed to one another, giving our very best at all times.

Our church school is a welcoming and caring Christian family where everyone is valued and supported so that they can flourish. We aim to instill a lifelong love of learning and nurture everyone's individual talents. Through Jesus Christ, our aspirations, hopes and dreams can be achieved.

'I can do all things through Christ who strengthens me.'

Philippians 4.13

At Cop Lane CE Primary School it is our intent to nurture and develop the whole child. The mission statement sets out our rationale for life and work in school with reference to;

- The high quality of education and opportunities we offer our pupils,
- The commitment, concern and care shown to the whole community involved with the school through a strong sense of Christian values,
- The high expectations we have of all in whatever task we undertake.

Our aims at Cop Lane CE Primary School are:

- To deliver a high quality education in a welcoming, friendly and supportive environment where Christian values are central to the ethos of the school and its teaching.
- To have consistently high expectations which encourage each child to achieve their maximum potential, regardless of faith, gender, race or ethnicity.
- To provide a stimulating and caring environment where self-discipline, respect for others and good manners are valued and encouraged.
- To continually foster positive links with parents, governors, children and staff, enabling the school to play a positive role in the wider community in which it is placed.
- To create an ethos where achievement, in its widest sense of the word is celebrated, where individuals are valued and a life-long love of learning is fostered.

Purpose

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. (National Curriculum 2014)

'You can analyse the past, but you can design the future.'

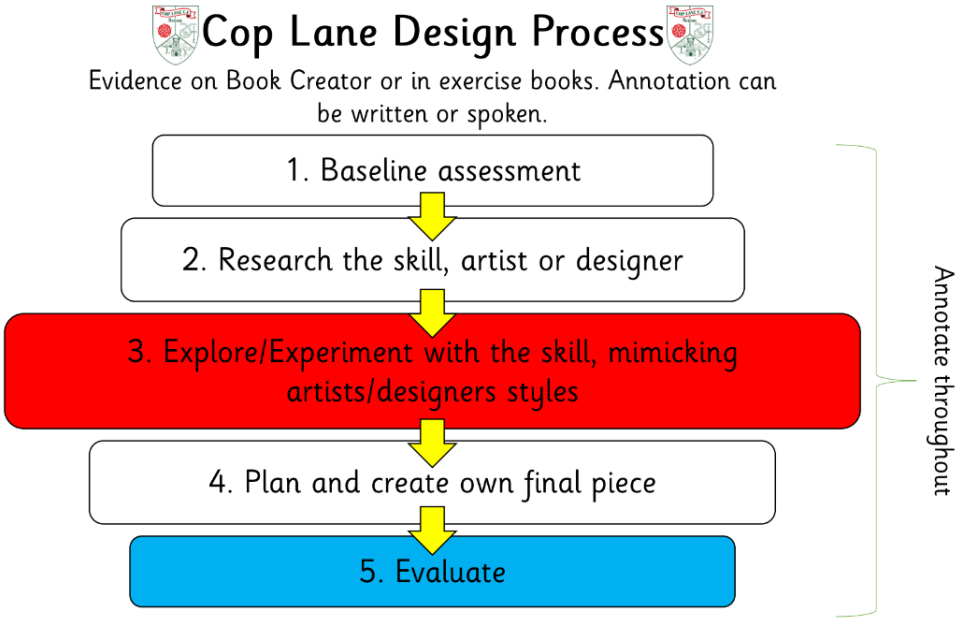
- Edward de Bono

Intent:

Design and Technology is an inspiring, rigorous and practical subject, which, at Cop Lane C of E Primary School, we aim to teach through a creative, holistic and inspiring way. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At Cop Lane C of E Primary School, we encourage children to use their creativity, curiosity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers. We recognise that not all families are equipped with the opportunities to have healthy lifestyles, so we place an emphasis upon this in our design and technology food curriculum.

Implementation

At Cop Lane C of E Primary School, the children are encouraged to use a Design Process which allows for full enrichment of the skills being taught, ensuring they are covering with depth and breadth across the key stages. The implementation of the Design and Technology curriculum is based on the National Curriculum and supported by the progression document created by the school, ensuring the skills are taught in a format which allows for embedding of the skills, which are then re-visited in the following key stage. The children are taught each skill in depth at least once a key stage by following a design process.



This allows teaching staff to cater for the individual needs of the pupils and ensures a clear progression of skills, of which the children can see from the beginning to end of their key stages, as they take their D&T books up through school with them. The process ensures children are given the opportunity to revisit and review previous learning, whilst continuously building upon these existing skills to move their learning forward.

With each skill taught, the children have access to researching different designers, building up their understanding of how people and their designs and products have helped shape history, contribute to and creativity.

Impact

Within the Design and Technology curriculum, we strive to instil an appreciation and enjoyment of design to enrich the children's learning experience. Our Design and Technology curriculum is high quality and is planned to demonstrate progression, giving children lots of opportunity to embed their skills and understanding, so that our children:

- 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.

Design and Technology across the Key Stages

In EYFS the pupil's early learning goals are:

Physical Development (Fine Motor Skills)

- Use a range of small tools, including scissors, paintbrushes and cutlery

Expressive Arts and Design (Creating with Materials)

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the process they have used

Key Stage 1

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
- 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

Use 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

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

Use 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.

Key stage 1

Pupils should be taught to:

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

Key stage 2

Pupils should be taught to:

- 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. (National Curriculum 2014)

In both the key stages the pupils will look at the elements of:

- Mechanisms
- Textiles
- Food
- Structures

Delivery of the Curriculum

As a result of discussion between the subject leader and staff, coverage grids have been created which specify which key skills will be taught in which year group. Use of these coverage grids ensures sound progression of key skills throughout the school, as well as depth and breadth of the skill being covered. The pupils may work in groups or individually with the teacher's guidance where necessary. There is no expectation that Design and Technology will be taught every week as some units of work may be 'blocked' to allow cross curricular links to be fully exploited. However, Design and Technology should be taught regularly throughout the year with an expectation of the skills being covered at least once a key stage.

Learning Resources

There are various resource areas where tools and materials are stored. Each class has their own basic tools and materials and in addition to this there is a central store of resources. An audit to enable the updating and replenishment of the Design and Technology resources available in school is regularly carried out. If a member of staff wishes to request specialist resources for their class they should speak to the Design and Technology subject leader, or write it on the list provided in resource area, which is regularly checked by the subject leader.

Equal Opportunities and Inclusion

(Refer to equal opportunities policy)

All pupils should have equal access to the Design and Technology curriculum in line with the school's equal opportunities policy. Teachers will aim to provide effective learning opportunities by:

- setting suitable learning challenges
- responding to pupils' learning needs
- overcoming potential barriers to learning and assessment for individuals and groups of pupils
- ensuring work from all cultures is provided and the pupils are given opportunities to discuss it

SEND

- Opportunities will be provided for pupils with Special Educational Needs through adaptive teaching.
- The needs of pupils with physical disabilities will be taken into consideration when planning work.
- Pupils will be supported where necessary by the class teacher or TA.
- The SENCO and the subject leader will try to advise teachers on the activities relevant to pupils with Special Educational Needs.

More Able

- Teachers will identify pupils who are 'more able' in Design and Technology within their classes towards the end of Summer Term, using baseline activities to begin topics to identify any children who might be on track towards being more able.
- Opportunities to extend the learning of more able pupils will be built into lesson planning.
- Opportunities for wider development will be provided wherever possible e.g. giving pupils a chance to showcase their work; visits from designers and crafts people; making links with local high schools.

Monitoring and Assessment

Design and Technology will be monitored through the scrutiny of pupils' work, teachers' planning, lesson observations and pupil interviews. Work from each key stage will be looked at from a cross section of abilities to ensure that all aspects of the curriculum are being delivered and progression is clear. It will verify that progression and standards are being maintained. The Design and Technology books and Book Creator are used for evidence of skills and lessons, and the subject leader will monitor these. At the end of summer term, teachers will record where pupils are working in relation to the YGE on the Lancashire tracker. Teachers should use the 'LPDS National Curriculum Assessment Materials' and 'Deeper Learning Assessment Guidance' to inform assessments.

Design & Technology

Deeper Learning Assessment Guidance

Please note this is not intended to be a tick list. It is purely an assessment guide to be used alongside the KLIPs to aid assessment as to traits a child displaying deeper learning may show.

Pupils who are most able in **Design & Technology** are likely to:

- Be capable of handling new equipment from watching an example, safely and efficiently, following the design specification with ease.
- Explore different materials, giving clear explanations of how this effectively meets the purpose of the design specifications using advanced vocabulary.
- Have a passion for how to improve their product, building upon the design specification and furthering or improving their design or product.
- Use detailed explanation with advanced vocabulary, showing a clear and concise understanding of the purpose of their product, understanding how the design process impacts their product.
- Develop their work conscientiously, constantly discussing and improving designs, building upon designers, work or research they have seen and conducted.
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Health and Safety

The safety of the pupils is the responsibility of the class teacher. The pupils are made aware of the safe use and correct procedure involved when using tools and equipment in a learning environment and how to follow proper procedures for food safety and hygiene. The pupils are made aware of the need to be careful and to understand that their actions can affect others. The pupils build up a range of skills when using equipment to reduce unnecessary risk. Craft knives are used under direct supervision of an adult. Glue guns are used (low temperature) 8 under supervision. All staff, including helpers, are made aware of food safety procedures when working with food to minimise any risks. The pupils wear protective clothing if necessary.

Last Reviewed – March 2023 – Mrs R Gill