DT Policy

Ready, Respectful, Safe

2023-2024

Cathcart Street Primary School

DT VISION

At Cathcart Street Primary School, Design and Technology includes the use of a broad range of knowledge, skills, and understanding, and prompts engagement in a wide variety of activities. Pupils design and make products that solve real and relevant problems within a variety of contexts.

General Curriculum Statement

At Cathcart Street Primary School,we believe Design and Technology is essential to prepare pupils to participate in tomorrow's rapidly changing technologies. Teachers encourage children to develop their investigating, designing, making and evaluating skills by thinking creatively.

Detailed planning seeks to provide children with the opportunity to explore mouldable materials, textiles, computing, prototypes, technical knowledge and how to make products work were the design cycle has become more explicit and more emphasis is now placed on regular evaluations - designs, make, evaluate. It also incorporates the production of food for consumption including food preparation, cooking and nutrition.

Aims and Objectives

'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

Intent

At Cathcart Street Primary school, we aim to provide children with a broad and balanced curriculum which prepares them for life beyond primary education. Design Technology is an inspiring, rigorous and practical subject that uses creativity 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.

Our DT curriculum recognises the need for children to acquire a broad range of subject knowledge including such disciplines as Mathematics, Science, Engineering, Computing and Art. DT encourages children to think and intervene creatively to solve problems both as individuals and as part of a team by learning how to take risks children become resourceful, innovative, enterprising and capable citizens.

DT combines skills, knowledge, key vocabulary, concepts and values to enable children to tackle real life problems thus developing an understanding of their impact on daily life and the wider world. High quality DT education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

As part of the school's ethos to address inequality, the DT curriculum aims to develop the creative, technical and practical expertise needed to perform everyday tasks confidently. Children learn 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 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.

Implementation

Teachers set out a long-term overview for their year, incorporating the skills needed to engage children in Design Technology. Through a variety of creative and practical activities children will develop the knowledge, understanding, skills and key vocabulary needed to engage children in the frequent process of designing and making required by the end of each key stage.

EYFS Children explore and use a variety of media and materials through a combination of child initiated and adult directed activities. They have the opportunity to use their senses to explore the world around them creating simple representations of events, people and objects. They are encouraged to think of ideas, finding ways to solve problems and testing their ideas

KS1 lessons include progressive skills using a range of relevant contexts. When designing and making children are taught about functionality, purpose and appeal based on their given criteria. Children are given time to communicate their ideas through talk, drawings, templates, mock-ups and where appropriate information and communication technology. They can select from a wide range of tools and equipment to perform practical tasks e.g. cutting, joining, shaping and finishing and choose from a wide range of materials and components including construction, textiles and ingredients according to their characteristics.

When evaluating their work, children study a range of existing products and evaluate their own ideas and products against design criteria whilst acquiring the technical knowledge to build structures that can be made stronger, stiffer and more stable and explore the use of mechanisms e.g. levers, sliders, wheels and axles in their products.

As part of their work with food children are taught how to cook and apply the principles of nutrition including the basics principles of a healthy and varied diet and where food comes from. Learning how to cook is a crucial life skill that enables them to feed themselves and others affordably and well, now and in later life.

KS2 lessons include progressive skills using a range of relevant contexts. When designing and making children use research and develop design criteria to inform the design of innovative, functional, appealing products fit for purpose aimed at particular individuals or groups. Children generate, develop, model and communicate their ideas through discussion, sketches, diagrams, prototypes, pattern pieces and computer aided designs. They can select from a wide range of tools and equipment to perform practical tasks e.g. cutting, joining, shaping and finishing and choose from a wide range of materials and components including construction, textiles and ingredients according to their functional properties and aesthetic qualities.

When evaluating their work children investigate a range of existing products and evaluate their own ideas and products against their own design criteria and consider the views of others to improve their work while understanding how key events and individuals in design and technology have helped shape the world. During the sequence of learning children will acquire the technical knowledge and skills to understand how to strengthen, stiffen and reinforce more stable structures and understand the use of mechanical systems e.g. gears, pulleys, cams, levers and linkages and the use of electrical systems in their products such as circuits, bulbs, buzzers and motors while applying their understanding of computing to program, monitor and control their products.

As part of their work with food, children in both key stages are taught how to prepare, cook and apply the principles of nutrition including the basics principles of a healthy and varied diet, where food comes from, seasonality and where and how a variety of ingredients are grown., reared, caught and processed. Learning how to cook is a crucial life skill that enables them to feed themselves and others affordably and well, now and in later life.

Robust assessment at the end of each unit of work shapes future learning to ensure key skills, knowledge and understanding are built upon year on year as set out in the National Curriculum to support progression throughout the key stages, thus supporting children's transition into secondary education and the wider world beyond.

Impact

The DT curriculum is high quality, well thought out and planned to demonstrate progression of skills, ensuring we equip children for their next key stage and beyond. The impact can be measured through standards achieved against planned outcomes. The school reflects a celebration of learning in 2D and 3D form which promotes discussion amongst children about their learning, thoughts, ideas, processes and evaluations, leaving children with a sense of pride in their own work, that of their peers and the school community as a whole.

Curriculum

Early Years Foundation Stage

Expressive Art and design is a specific area of learning in Early Years, giving children lots of opportunities to explore and use media materials while encouraging children to be imaginative.

Young children will be given the opportunity to explore colour, texture, shape and form in 2 and 3D. The children will have access to a wide range of construction, collage, painting and drawing activities, using appropriate tools and art materials.

They will be encouraged to develop their own creative ideas.

Key Stage 1 children will be taught:

- Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in a cycle or repeated 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.

At the end of Key Stage 1 most pupils will be able to:

Design

- design purposeful, functional, appealing products for themselves and others 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 form and use a range of tools and equipment to perform practical tasks (e.g. cutting, shaping, joining, 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 (e.g. levers, sliders, wheels and axles) in their products.

<u>Key Stage 2 children will be taught:</u>

- Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in a cycle or repeated 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.

At the end of Key Stage 1 most pupils will be able 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.
- 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 clothes 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 (e.g. gears, pullets, cams, levers and linkages).
- understand and use electrical systems in their products e.g.ducts (e.g. series circuits incorporating switches, bulbs, buzzers and motors).
- apply their understanding of computing to program, monitor and control their products.

Teaching and Learning

- At Cathcart Street DT is taught explicitly as a sequence of lessons focusing on developing designing skills, including generating ideas, clarifying a task, creating design proposals, communicating ideas, planning and evaluating. These lessons are designed to build on previous skills taught to date and are identified on the progression of skills document.

- Techniques include applying scientific skills (e.g. fair testing and predicting). Applying mathematical skills (e.g. measuring, drawing, interpreting data). Applying computer skills (e.g. making things happen by the use of control, handling information through database or spreadsheet). Applying art skills (e.g. investigating textures and colour or recording visual information).

- Care will be taken to use related vocabulary building on previous lessons.

- Whilst children can work on their own or in groups they will be encouraged to respond in their own way. They will be provided with resources needed or may be expected to make their own selections.

- Children will be supported to comment upon their own work and that of others in a constructive manner, evaluating their work against a set criteria.

Organisation

Staff will teach either DT or Art each half term. Lessons will be timetabled for at least one hour per week with approximately 6 lessons per half term including: materials and components, mechanisms and control systems, structures, food and horticulture, existing products, quality and health and safety within an investigate, design, plan, create and evaluate cycle.

Marking Policy

As with other subjects, children's work will be responded to by teaching staff using the assessment criteria. Assessment is not necessarily about the end product but more about the knowledge, techniques and skills gained.
It is important that the child should view their own work with the given criteria and be given time to evaluate and reflect on their final piece.

Assessment

The learning outcomes in each unit show how pupils might demonstrate what they have learnt. Pupils should be actively involved in evaluating their own work and thinking of possible improvements.

Informal assessment of progress will be made by the class teacher during lessons through questioning, oral feedback and observations. Each class teacher will update the steps on Target Tracker termly using the DT assessment document linked to the national curriculum objectives.

DT books will be used to evidence the journey the children take including research, planning, techniques, skills, knowledge, understanding and evaluation. The book should also show the final outcome which provides a visual reminder (photograph) for future reference and development.

The Subject Leader will monitor and track progress across the school and review the effectiveness of the procedures implemented.

Monitoring and evaluation

Monitoring and evaluation will take place throughout the year. Book scrutiny, lesson observations, learning walks, pupil voices and working walls will form part of monitoring and evaluation. All monitoring will be carried out by the DT Subject Leader, and where appropriate, members of SLT may be involved or school support team. Findings will be shared with the SLT and class teachers.

Inclusion

At Cathcart Street Primary School, we teach DT to all children, whatever their ability. DT forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our DT teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and adaptations to cater to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against age related expectations. When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, and adaptation – so that we can take some additional or different action to enable the child to learn more effectively.

Teaching & Learning Resources

There are a wide range of resources to support the teaching of design and technology across school, all classes have a range of basic resources. Other resources including gears, wood, dowels, saws, fabrics, sewing materials etc are kept in a central location and forms part of the schools general provision.
Visits are planned by year groups to enhance learning and give hands-on experiences. In addition, people with an interest, or expertise, in a particular topic or area could be invited into school to work with the children.

The Learning Environment

Across the year the displays in classrooms and around the school should reflect the DT work taking place. Displays should reflect the skills and key techniques taught over the topic.

Cross-Curricular Links in DT

DT allows the use of other curriculum subjects, such as Maths, English and Science to be further developed. Mathematical opportunities such as geometric shapes, English opportunities to articulate their knowledge and understanding and science opportunities to explore texture and change.

For further information and a view of the Long Term DT Map and SEND Adaptations, please see the school DT Curriculum Webpage:

Agreement Date: January 2024

Review Date: January 2025

DT Leader: A. Brierley