Fishergate Primary School

Design and Technology

Policy

'Achieving great things together'

Definition

Design and Technology is a subject where children's capability in designing and making is developed through combining their designing and making skills with knowledge and understanding. At Fishergate Primary School we view Design and Technology as a subject which allows children to apply their knowledge and understanding in a creative way to design and make products.

"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

- Successful learners, who enjoy learning, make progress and achieve.
- Confident individuals who are able to live safe, healthy and fulfilling lives.
- Responsible citizens who make a positive contribution to society.
- 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.
- Meet the requirements of the national curriculum programmes of study for Design and Technology at Key Stage 1 and 2.

Planning, teaching and learning (RSHE)

Design and technology contributes to the teaching of Relationship, Sex and Health Education. We encourage the pupils to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

Spiritual, moral, social and cultural development

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together, and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities.

EYFS

Pupils in the EYFS will undertake investigative and skills based tasks during independent working time, through continuous areas of provision. The Design and Technology area will be available to them on a daily basis and they will be encouraged to undertake focused, practical tasks through directed and self-initiated stimuli. They will be provided with resources that encourage them to design, make and develop ideas independently. Design and Technology forms part of the learning within Understanding of the World as well as Expressive Arts and Design ELG: Creating with Materials. Design and Technology in the EYFS also enables learners to make sense of the 'made world' in which they live (Understanding the World).

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, making and evaluating. They should work in a range of relevant contexts, for example, the home and school, gardens and playgrounds. When teaching DT, 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.

Cooking and nutrition
• Use the basic principles of a healthy and varied diet to prepare dishes.
• Understand where food comes from.

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, making and evaluating. They should work in a range of relevant contexts, for example, the home, school, leisure, culture, enterprise, industry and the wider environment. When teaching Design and Technology, 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
• 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.

Cultural Capital

Cultural capital is "the essential knowledge that pupils need to be educated citizens, introducing them to the best that has been thought and said and helping to engender an appreciation of human creativity and achievement." Ofsted 2019. It is recognised that for pupils to aspire and be successful academically and in the wider areas of their lives, they need to be given rich and sustained opportunities to develop their cultural capital. At Fishergate Primary School we use six key areas of development that are interrelated and cumulatively contribute to the sum of a pupil's cultural capital. They are: Personal Development, Social Development, Physical Development, Spiritual Development, Moral Development and Cultural Development. Within the area of Design and Technology we have constructed our curriculum to be ambitious and designed to give all learners, including SEND and the most disadvantaged, the knowledge and cultural capital they need to success in life. Many links are made between the six key areas within our contextualised planning so that it ensures that we can provide as many first hand and hands on experiences for our pupils as we can.

How D&T is taught

DT is taught in alternate half-terms to Art. Our rolling programme ensures that all pupils are taught the full entitlement of Design and Technology curriculum within our mixed age class structure. (See 2

year rolling programme document). The projects are mostly cross curricular and linked to the current class topic. Pupils will also have opportunities during Design and Technology lessons to develop their own ideas and generate designs independently.

Assessment

Assessing pupil's performance is a continuous process carried out over the full duration of Primary school and our assessing methods include the following as appropriate: -

1. Looking at a child's recorded work i.e. model, photographs, written work.

2. Individual discussion and questioning.

3. Listening to the children's ideas as they discuss between themselves.

4. Group discussions in both planning and reporting back sessions.

5. Observing the children's skills in Design and Technology.

6. Record the progress that children make by assessing the children's work against the learning objectives for their lessons. At the end of a unit of work, teachers make a judgement against the units learning objectives.

7. End of KS1 and KS2 attainment- teacher assessment based on trackers and work samples.

8. Reporting to parents verbally in the Autumn and Spring terms and through writing in the annual report, describing each child's attitude to Design and Technology and progress.

Accessibility/ Equal opportunities and inclusion of all children

• We believe that it is important for all children to experience the range of Design and 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 experience, this will be addressed through differentiated planning.

• We expect all children to participate in Design and Technology projects. Specialist equipment and support will be sought and provided for any children who need them in order that they will be included within and have access to tasks in Design and Technology.

• The Subject Coordinator will liaise closely with the SENCO (Special Needs Coordinator) to ensure that all our children have differentiated access to Design and Technology, including provision of special resources or equipment where necessary and possible.

Health and Safety

Teachers will always teach the safe use of tools and equipment and insist on good practice. In food units of work teachers will ensure that they check against the food allergy list and adhere to good food hygiene practices.

By: Lisa Dewhurst, Fishergate Design and Technology Leader