

Design Technology Policy

Norman Street Primary School



Approved by Governors:

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Design Technology Policy

What is Design and Technology?

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.

Why teach Design and Technology?

Design and Technology gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design by exploring the designed and made world in which we all live and work.

Children should be taught Design and Technology so that they:

- acquire a broad range of subject knowledge.
- draw on disciplines such as mathematics, science, engineering, computing and art.
- learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens.
- develop an understanding of how past and present design and technology impacts their daily life and the wider world.
- understand that design and technology can make a contribution to the creativity, culture, wealth and well-being of the nation.

Aims

As a result of learning about Design and Technology, pupils should be able to:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and participate successfully in an increasingly technological world.
- plan, 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.
- investigate, critique, evaluate and reflect on their ideas and products and the work of others.
- understand and apply the principles of nutrition and learn how to cook.

Foundation Stage:

Design and Technology in the Foundation Stage comes under the headings of Expressive arts and Design and Physical Development.

In the Foundation Stage we provide opportunities for children to:

- develop a curiosity and interest in the made world through investigating, talking and asking questions about familiar products.
- develop confidence and enthusiasm through frequent exploration.
- develop construction skills to build and construct objects, and provide activities for exploring joining, assembling and shaping materials to make products.

- extend their vocabulary through talking about and explaining their designing and making activities.

Key Stage 1 and 2:

All maintained primary schools in England are required to follow the National Curriculum, which includes Design and Technology as a compulsory subject at Key Stages 1 and 2. A new statutory programme of study was introduced in September 2014. Below is what the programmes of study state should be taught at KS1 and KS2:

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 iterative¹ 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.

¹ As opposed to a linear or cyclical process, during an iterative process thought leads to action, resulting in further thought and action as pupils resolve design problems and address design opportunities.

- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design (CAD).

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 and how it is prepared.

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.

Teaching Approaches

A range of approaches are employed in the teaching of Design and Technology.

These include:

- direct teaching of skills and opportunities to apply these skills.
- individual, group and class work.
- the teacher taking on the role as provider and facilitator, to directly teach skills and to act as a consultant to the children.

Special Needs

Most tasks will be differentiated by outcome or by varying the criteria for success but children with special needs will be supported by receiving more adult help to achieve outcomes. Tasks may also be scaffolded (using templates to record and evaluate) to allow all children to be successful.

Equal Opportunities

All children receive full provision regardless of gender, race, ethnicity, cultural difference, age or ability.

The Role of the Coordinator

The coordinator will attempt to:

- see that the new Design and Technology Curriculum is properly introduced and resourced.
- act as a consultant for staff and provide advice and support.
- monitor work to check that continuity and progression are taking place in accordance with the Design and Technology Curriculum.
- monitor and review children's work and quality of teaching.
- lead CPD for staff.
- keep staff up to date with current developments in Design and Technology.
- review the strengths and weaknesses in Design and Technology and indicate areas for further development.

Assessment of Design and Technology

As part of the reforms to the National Curriculum, level descriptors used to report on children's attainment in Design and Technology have been removed. They will not be replaced. Schools are expected to introduce their own approaches to formative assessment.

At Norman Street Primary School, we assess pupil's ability through observations, pupil conversations and work in books and on iPads.

All assessments are formally recorded on the Foundation Subjects Assessment Tracker. This has recently been updated to make trackers pertinent to individual subjects.

Technology

The use of iPads to deliver effective teaching and learning opportunities is growing at Norman Street Primary School. In Design and Technology, iPads will be used wherever possible in order to enhance, extend and compliment teaching and learning in this subject. Children will use the iPads to record, research and evaluate their learning.

Health and Safety Issues

- Children should not use craft knives.
- Children should only use glue guns under one-to-one supervision when a member of staff is satisfied that they are competent to do so.
- Staff should not allow children to use tools unless they are competent and confident in using them themselves.
- Children's use of tools will be adequately supervised. By the end of KS2 we want our pupils to have developed a clear understanding of safe working practice. Children are encouraged to share the responsibility for maintaining a high standard of safety by:
 - helping to negotiate safety rules.
 - visually checking the conditions of tools.
 - using tools in the way they have been taught.
 - cleaning and replacing tools after use.

References:

Design and Technology Programmes of Study: Key Stages 1 to 3
National Curriculum in England

Design and Technology website. Primary section
<https://www.data.org.uk/for-education/primary/>

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