

HOLDEN LANE PRIMARY SCHOOL



Design and Technology Policy

Mrs W Richardson (Design and Technology Leader)

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Holden Lane Primary School Design and Technology Policy

Our Vision

Through a positive caring environment, we provide the opportunity for every child to reach their full potential.

Rationale

At Holden Lane, children receive a Design and Technology curriculum which allows them to exercise their creativity through designing and making. The children are taught to combine their designing and making skills with knowledge and understanding in order to design and make a product. Skills are taught progressively to ensure that all children are able to learn and practice in order to develop as they move through the school.

Evaluation is an integral part of the design process and allows children to adapt and improve their product, this is a key skill which they need throughout their life. Design and Technology allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science and Art.

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating.

The main aspects of Design and Technology to be studied will be determined by the programmes of study of the National Curriculum 2014.

Through Design and Technology pupils at Holden Lane Primary School will learn to think and intervene creatively to solve problems both as individuals and as members of a team.

“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 Document 2014)

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.

Objectives

Foundation Stage

Children in the Foundation Year will undertake investigative and skills based tasks during independent working time. 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 based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently. Children in the Foundation Stage work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the Foundation Stage Profile, especially Physical Development.

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 1 children will undertake one unit of work per term, at least. They will also have opportunities during Design and Technology lessons to develop their own ideas and generate designs independently. Progression of Design and Technology skills will be monitored by staff formally and informally with references to expectations from the National Curriculum.

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.

Children will be taught by Foundation Stage staff or Key Stage 1 and 2 staff. External specialists will be used when possible. Students in school will be encouraged to consider the benefits and learning opportunities possible through Design and Technology.

Relevance

Wherever possible Design and Technology work will be related to the real world and everyday examples will be used.

Cross-curricular skills and links

Design and Technology allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science and Art.

Equality of Opportunity

All children have equal access to the Design and Technology curriculum and its associated practical activities. The Senior Leadership Team, Class Teachers and Teaching Assistants at Holden Lane Primary School are responsible for ensuring that all children, irrespective of gender, learning ability, physical disability, ethnicity and social circumstances, have access to the whole curriculum and make the greatest possible progress. 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 co-ordinator will liaise closely with the Inclusion leader to ensure that all our children have differentiated access to Design and Technology, including provision of special resources or equipment where necessary and possible. Where appropriate, work will be adapted to meet pupils' needs and, if appropriate, extra support given. More able pupils will be given suitably challenging activities. Gender and cultural differences will be reflected positively in the teaching materials used.

Health and safety

Teachers will always teach and model the safe use of tools and equipment and insist on good practise. Class Teachers and Teaching Assistants will check equipment regularly and report any damage, taking defective equipment out of action. Risk assessments on the use of Design and Technology equipment have been completed and shared with staff.

Assessment for Learning, recording and reporting

Throughout the school teachers will assess whether children are working at/above or below the expected level for their age based on their understanding and application of the content of the National Curriculum 2014. Progress and attainment is reported to parents through parents' evenings and end of year reports.

Marking for Improvement

Much of the work done in Design and Technology lessons is of a practical or oral nature and, as such, recording will take many varied forms thus making marking different. It is, however, important that written work is marked regularly and clearly, as an aid to progression and to celebrate achievement. When appropriate, pupils may be asked to self-assess or peer assess their own or other's work.

Marking for improvement comments in a child's book must be relevant to the learning objective to help children to better focus on future targets.

Role of the subject Leader

Design and Technology will be led by Mrs Richardson. Standards of teaching and learning will be judged using work sampling, observations, pupil interviews and planning scrutiny. The policy will be reviewed annually.

Resourcing

Specialist pieces of equipment and those posing a potential safety risk will be held centrally and staff will access when required. Risk assessments have been completed for the use of the different Design and Technology equipment. These risk assessments have been shared with staff and pupils will be shown how to use each piece of equipment correctly and safely before they use the equipment themselves.

Curriculum

Year	Autumn	Spring	Summer
1	Mechanisms Levers & sliders Design and make a moving Christmas card for a family member.	Structures Free Standing Structures Design and make a bridge for the three Billy Goats Gruff to help them to cross the river safely. (Links with Literacy)	Cooking & Nutrition Design and make a fruit salad to help to give us energy for sports day.
2	Cooking & Nutrition Design and make a healthy flapjack for Granny Mainland to give her a taste of Island Life. (Link with Literacy and Geography-Katie Morag Island Homes)	Mechanisms Wheels and Axels Design and make a car for themselves to play with during wet playtimes.	Textiles Templates and joining techniques Design and make a puppet for a younger child to help them to retell a story.
3	Cooking & Nutrition Design and make a Stone Age stewed fruit dish. (links with history)	Textiles 2D to 3D shapes Design and make a pencil case for themselves.	Mechanisms Levers & Linkages Design and make an interactive information poster about the Ancient Egyptians. (links with history)
4	Cooking & Nutrition Design and make a chocolate bar for a friend to enjoy. (America topic, links with History and Geography)	Structures Shell Structures Design and make suitable packaging for their chocolate bar.	Electrical Systems Simple Circuits & Switches Design and make a night light for a younger child to use at bedtime. (Links with science)
5	Mechanisms Pulleys & Gears Design and make a Ferris wheel for a Holiday resort in Greece (link with Science 'Forces')	Structures Framed Structures Design and build a bridge to help Toad to cross the river. (Rivers topic- Links with Geography and Literacy with wind in the willows)	Cooking & Nutrition Design and make a savoury scone to sell to raise money for the school.
6	Textiles Combining Fabric Shapes Design and make a Christmas tree decoration to hang off the school's Christmas tree.	Cooking & Nutrition Design and make a vegetable turnover for a WW2 family meal using ingredients that were available at the time. (Dig for victory-WW2)	Electrical Systems Complex Circuits & Switches Crumbles kit (links with Computing and Science 'Electricity')

Curriculum

Design & Technology in the Foundation Stage

During the Early Years Foundation Stage, the essential building blocks of children's design and technology capability are established. There are many opportunities for carrying out Design and Technology-related activities in all areas of learning in the EYFS.

The most relevant statements for DT are taken from the following areas of learning:

- Physical Development
- Expressive Arts and Design

Three and Four-Year-Olds	Personal, Social and Emotional Development	<ul style="list-style-type: none">• Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.
	Physical Development	<ul style="list-style-type: none">• Use large-muscle movements to wave flags and streamers, paint and make marks.• Choose the right resources to carry out their own plan.• Use one-handed tools and equipment, for example, making snips in paper with scissors.
	Understanding the World	<ul style="list-style-type: none">• Explore how things work.
	Expressive Arts and Design	<ul style="list-style-type: none">• Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.• Explore different materials freely, in order to develop their ideas about how to use them and what to make.• Develop their own ideas and then decide which materials to use to express them.• Create closed shapes with continuous lines, and begin to use these shapes to represent objects.
Reception	Physical Development	<ul style="list-style-type: none">• Progress towards a more fluent style of moving, with developing control and grace.• Develop their small motor skills so that they can use a range of tools competently, safely and confidently.• Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor.

Reception	Expressive Arts and Design		<ul style="list-style-type: none"> • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources and skills.
ELG	Physical Development	Fine Motor Skills	<ul style="list-style-type: none"> • Use a range of small tools, including scissors, paintbrushes and cutlery.
	Expressive Arts and Design	Creating with Materials	<ul style="list-style-type: none"> • 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.