

Ightenhill Primary School



Design and Technology Policy

RATIONALE

At Ightenhill Primary School, we believe that it is essential to prepare pupils to participate in rapidly changing technologies. Design and Technology prepares children to deal with tomorrow's rapidly changing world. It encourages children to become independent and creative problem-solvers, whilst developing their team building skills both as individuals and as members of a team. Teachers encourage children to develop their investigating, designing, making and evaluating skills by thinking and intervening creatively. The skills taught in Design and Technology provide children with transferable key skills needed for everyday life.

It is our aim to:

- 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.
- design, make and evaluate their ideas and products, and evaluate the work of others.
- understand and apply the principles of nutrition and learn the basic skills related to cooking.

TEACHING AND LEARNING

The school uses a variety of teaching styles in order to cater for the different learning styles of our pupils. Our main aim is to develop children's knowledge, skills and understanding of concepts and ideas. This is done through topic-based DT lessons that are delivered as a whole class. During these lessons, children are taught the skills required to complete a task. Then a problem is introduced, where children are encouraged to design, make and evaluate their product. Through careful planning of Learning Challenge Curriculum, we provide the children with opportunities to:

- be innovative
- make genuine design decisions
- consider product, purpose and user
- analyse products.

Our staff have high expectations of all children and encourage them to be successful in achieving their full potential. Where teaching assistants are available, they are used to support individuals or groups, guiding them in their learning.

Our Design and Technology curriculum is taught as part of the Learning Challenge Curriculum where appropriate. This gives us the opportunity to pose real-life problems for

children to work on, finding innovative solutions to a given design brief. In addition to this there are many links to ICT, science, mathematics and English.

Empowering Learners

As a school, we promote 'learning to learn' skills called 'Empowering Learners'. The intent of this approach is to teach children how to become: self-managers, effective participators, resourceful thinkers, reflective learners, independent enquirers and effective team workers. Design and Technology lessons offer ample opportunities for children to learn and apply these key skills.

Our School Values

Underpinning everything we teach at Ightenhill, are our school values. We aim to encourage the application of these values throughout Design and Technology lessons.

Resilience

This is a key value to be encouraged in Design and Technology. As children participate in the design and make stages, they are encouraged to evaluate, adapt and modify their ideas – hence showing resilience to keep trying.

Responsibility

Children are supported to be responsible, independent learners; making their own choices when planning, making and evaluating their products. It is also essential that they learn to be responsible for using the equipment and resources that they will use in order to maintain safety.

Respect

In Design and Technology, children will learn to respect their own and other people's contributions to the design and make process. They will be encouraged to listen to the advice of others and show respect to their peers when collaborating on projects. To maintain safety, children must show respect to the teachers, their peers and the classroom environment – particularly when using tools and equipment.

Cooperation

This value is embedded in the Design and Technology curriculum - the children will have many opportunities to talk about their ideas and designs and work together with their peers to create a desired outcome. They will learn to negotiate: sharing their ideas when working collaboratively. Children will also work as part of a team when developing the skills involved in the curriculum.

Ambition

In Design Technology, it is important that children are ambitious and believe that they can design and make something to suit a purpose. Through careful planning and delivery, children will understand the link to the real world and have ambitious plans to create something purposeful. Our participation in Primary Engineer projects enables children to learn about the importance of Design and Technology in making a difference to people's lives.

CURRICULUM AND PLANNING

The 6 principles of DT

The new National Curriculum requirements are consistent with these six principles:

User

Pupils should have a clear idea of who they are designing and making products for.

Purpose

Pupils should be able to clearly communicate the purpose of the products they are designing and making. Their product should be designed to perform at least one task and should be evaluated throughout.

Functionality

Pupils should design and make products that work effectively in order to fulfil users' needs, wants and purposes.

Design Decisions

Pupils need opportunities to make their own decisions. Through making design decisions, pupils decide on all aspects of their design.

Innovation

When designing and making, pupils need some scope to be original with their thinking. Projects that encourage innovation lead to a range of design ideas and products being developed and are characterised by engaging openended starting points for learning.

Authenticity

Pupils should design and make products that are believable, real and meaningful to themselves and others.

In Design and Technology, there are five strands embedded in the units we teach:

- Design
- Make
- Evaluate
- Technical knowledge
- Cooking and nutrition.

The children learn skills and processes in each of these strands in order to acquire skills.

The Design Technology curriculum is then organised into five areas:

Cooking and nutrition: Where food comes from, balanced diet, preparation and cooking skills

Mechanical systems: Mimic natural movements using mechanisms such as cams, followers, levers and sliders

Textiles: Fastening, sewing and decorative fabric techniques including cross stitch, blanket stitch and appliqué

Electrical systems: Functional series circuits, individual circuit components, circuit diagrams and electrical products

Structures: Material functional and aesthetic properties, strength and stability, stiffen and reinforce structures

Moving forwards, we will look at the additional area detailed below:

Digital world: Program products to monitor and control, develop designs with 2D and 3D CAD software

The Long Term Plan at Ightenhill is a two-year cycle linking to the Learning Challenge Curriculum where appropriate with additional DT weeks planned where necessary. Design and Technology is taught at least once a term and focuses primarily on the progression of skills and processes in order to fulfil a design brief posed as a question. This progression of skills is evidenced in the skills progression document. Planning is shared with the subject leader prior to teaching the unit so that adjustments can be made where necessary.

Key Stage One			
Cycle 1	Textiles	Cooking and nutrition	Structures
Cycle 2	Mechanisms – wheels and axels	Mechanisms – sliders and leavers	Cooking & nutrition
Lower Key Stage Two			
Cycle 1	Structures	Cooking and nutrition	Textiles
Cycle 2	Structures Cooking and nutrition	Electrical systems/programming and control	Mechanical systems – gears, pulleys, CAMS
Upper Key Stage Two			
Cycle 1	Electrical systems/programming and control Cooking and nutrition	Structures	Textiles
Cycle 2	Mechanical systems – gears, pulleys and CAMS	Structures	Cooking and nutrition

Cooking and Nutrition as a strand of the National Curriculum has high priority at Ightenhill; we believe it is important to teach children where their food comes from and the importance of eating a healthy and balanced diet whilst also teaching them safe and effective cooking techniques that they can use at home. For this reason, cooking and nutrition theme weeks will take place throughout the year.

PUPIL'S RECORDING OF THEIR WORK

There are various ways for pupils to record their work in Design and Technology. Each child has a 'Scrapbook' that will follow them through school showing their progress and achievements over time.

Different ways of recording their work may include:

- written investigations of products
- planning processes when designing and evaluating work
- diagrams and photographs with annotations
- group work on other media.

Finished products should be photographed individually and stuck into books with feedback from the teacher on the processes and skills involved.

FEEDBACK

Work is marked in accordance with the feedback policy. Children will be given oral feedback and further instruction as they work on practical skills and given written feedback on their recorded work where appropriate.

ASSESSMENT AND RECORD KEEPING

The National Curriculum states that attainment in Design and Technology should link the programme of study. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified. Teachers will assess skills and attainment throughout the unit to be reported to the DT coordinator.

Teachers assess children's practical work in Design and Technology by making assessments as they observe them working during lessons. In accordance with the school's feedback policy, class teachers complete Teachers will report their assessment on tracking grids placed at the front of the children's scrapbooks.

The Design and Technology subject leader will create a portfolio of samples of work in order to exemplify standards across year groups and aid teachers in making judgements.

MONITORING AND EVALUATION

The subject leader monitors and evaluates the effectiveness of teaching and learning in Design and Technology in the following ways:

- pupil interviews
- learning walks
- work scrutiny
- discussion with class teachers.

The outcomes of the activities about are recorded on a 'SERF' form (Self-Evaluation Evidence Report Form) and discussed with the SLT before being shared with the whole staff.

RESOURCES

Resources, which are not used or required regularly, are stored centrally and accessed by teachers when necessary. It is the responsibility of teachers to keep the resource areas tidy and organised. If further investment is needed, teachers can request additional resources through the subject leader, who will then liaise with the head teacher.

HEALTH AND SAFETY

Health and safety is of paramount importance in the teaching of Design and Technology - particularly when working with tools, equipment and resources. Children will be given suitable instruction on the operation of all equipment before being allowed to use equipment independently. Discrete practice sessions, using tools, will be planned, where necessary, to ensure that the children learn the skills to work safely.

Through close adult supervision, children will be taught how to:

- use equipment safely and effectively
- respect the equipment they are using and to keep it stored safely whilst not in use
- recognise and consider hazards and risks
- take action to control any risks by following simple instructions.

Glue Guns

Children in Key Stage 2 should use low temperature glue guns, under supervision in a designated work area, wearing safety goggles.

Craft Knives

Children in Key Stage 2 may use cutting equipment under supervision, using a cutting mat and wearing safety goggles.

Sawing

Bench hooks and clamps must be used when sawing any material. Children will use junior hacksaws under close supervision.

Safety goggles must be worn at all times and any loose items of clothing/hair must be tucked in.

Risk assessments are carried out by the class teacher for activities where a risk assessment is deemed appropriate. It is the teacher's responsibility to store the equipment safely or return it to the central store.

Cooking and Nutrition - Food Hygiene

Before starting any unit on cooking and nutrition, a general food hygiene lesson is taught to highlight the priority of food hygiene and emphasise the importance of following these routines before preparing food and eating.

Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food. This must be modelled by teachers to emphasise the importance. Pupils and staff working with food must wear aprons designated for cooking; all jewellery should be removed and hair tied back.

In addition to this:

- Guidelines for safe food handling are in school.
- The LA manual on Health and Safety is kept in the Head Teacher's office.

- A list of children with specific allergies is available from the office and also detailed in the Pupils Information Files in all classrooms. Teachers should familiarise themselves with this and avoid using foods such as nuts or foods high in colouring etc. which might cause an adverse reaction. It is recommended that teachers write to parents to check food allergies before food topics begin to check the children's records are up to date.
- Staff should also be sensitive to any cultural food taboos of children within their class.

Online Safety statement

All members of the school community have a responsibility for promoting and supporting safe behaviours online. ICT and online resources are increasingly used across the curriculum. At Ightenhill, we believe it is essential for e-safety guidance to be given to the pupils on a regular and meaningful basis. Pupils are taught about copyright and respecting other people's information, images, etc. through discussion, modelling, and activities as part of the curriculum. Additionally, pupils are taught to critically evaluate materials and learn good searching skills. Staff must preview any recommended sites before use. Particular care must be taken when using search engines with the children as these can return undesirable links. We continually look for new opportunities to promote e-safety.

Policy written by: A Slater

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