

Weobley Primary School



A Whole School Policy for Design and Technology

Policy Reviewed	
Date	By whom
Oct 2006	S Love/H T/Gov
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Rationale: This document is a statement of aims, principles and strategies for the teaching and learning of Design Technology at Weobley Primary School, developed during the academic year 2014-15, through a process of consultation with teaching staff and governors. It will be submitted to the governors this year for review.

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. 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.'

Design and Technology Curriculum 2013

Aims and Objectives:

Aims

- All children will be given the opportunity 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.

- 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

During key stage one, 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 in key stage one pupils should be given opportunities 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]

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- 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.

During key stage two, 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 in key stage two, pupils should be given opportunities 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

Across the school, 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.

In key stage one, pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes.
- understand where food comes from.

In key stage two, pupils should be taught to:

- 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.

Assessment and Recording:

The work children do will serve as a record for the work covered in each creative-curriculum topic. It is not necessary to make detailed records for each child in relation to the outcomes - the work produced is evidence of this. Teachers should discuss pupils that are gifted and talented, show great promise or need extra help.

In KS1 and KS2, all design and technology work produced as part of the creative-curriculum topic, should be added to the topic book in the form of photographic evidence, along with any written work/drawings/designs produced.

Roles and Responsibilities:

The Role of the Design Technology Co-ordinator is to:

- Take the lead in policy development and to ensure progress and continuity in Design Technology throughout the school.
- Support colleagues in delivery of design technology
- Take responsibility for the purchase and organisation of resources for Design Technology
- Keep up to date with developments in Design Technology education and disseminate information to colleagues as appropriate.

The Management of teaching and learning should:

- Ensure that there is a fair sharing of available resources between children.
- Encourage all children to value both practical skills and the skills of recording and communication.
- Involve all children equally in all aspects of design and technology.
- Encourage co-operative group work, in which children learn to value each others' contributions
- Compensate for lack of previous experience in certain material areas (e.g. construction kits or food.)

Transfer and Transition:

- Staff meetings are used to discuss the DT curriculum and ensure consistency of approach and of standards.
- The names of any gifted and talented children, or those who need extra help should be passed on to the next class teacher.

**Equal
Opportunities:**

'It is important for teachers to guide pupils in their choice of tasks towards contexts and activities which do not reinforce stereotypes and which extend their capabilities and range of interests beyond conventional horizons.'

(Design & Technology Working Group Report, June 1989)

Providing access to a range of activities and experiences within design and technology is essential, including references to other cultures and the needs and values of people from a variety of backgrounds.

Links with geography can provide opportunities to compare the local area with a contrasting area, either in this country or abroad, considering both a range of technologies and specific use of materials (e.g. food and textiles).

**Special
Educational
Needs:**

The characteristics of Design and Technology are such that it offers important opportunities for children who have special needs in aspects of the school curriculum.

For example:

- Work in design and technology enables children to develop skills and insights through participation in activities that relate to their own interests and experiences in meaningful ways.
- The practical nature of much design and technology work means that children may be less inhibited.
- The tangible nature of the outcomes of design-and-make tasks can provide motivation by generating a sense of achievement and enabling children to have their achievements valued by others.

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- Design and Technology projects are ideally suited to mixed ability groupings since they are often tackled most effectively by teams in which a variety of abilities, qualities and perspectives are brought together on the task.
- A differentiated and flexible approach to the particular needs of individual children is essential; design and technology tasks should be structured in ways which enable children to progress and experience success.
- A classroom climate should be promoted which encourages creative talk and discussion. Good communication is essential in technological work, children need to be able to tell each other and their teacher about their intentions, progress and problems.

Excellence is measured through:

- (i) Quality of work produced
- (ii) Independence and confidence in which they carry out a given task
- (iii) Appropriate use of design and making skills
- (iv) Breadth and depth of knowledge and understanding

Ensuring Progress and Continuity

Excellence is rewarded through:

- individual teacher's reward schemes
- head teacher's reward schemes
- display of quality work

Planning in Design Technology is a process which all teachers are involved, wherein:

- The use of creative, cross-curricular topics has been developed throughout the school to incorporate skills in D.T.
- Work plans are drawn up by individual teachers and monitored by the Head Teacher and the Design Technology Co-ordinator.

Resources:

Accommodation

The majority of Design and Technology activities are carried out in the classrooms or 'art' areas outside classrooms, to ensure that activities are carried out safely. The classroom layout may need to be altered to provide designated areas for some operations i.e. cutting, or provision of sufficient space for these operations to be carried out by each group.

For food activities there is a kitchen area available providing ovens, a microwave, a variety of cooking utensils and equipment and hygienic food preparation areas.

Material Resources

Due to the lack of available space for storage, many consumable resources will be purchased termly, to suit the needs of the class teacher.

Tools may be found in named drawers.

Some materials will be found there also, cutting boards etc. Some DT tools, such as saws are kept in the cupboard in the library, out of children's reach. Other materials are available in the Art Cupboard in the

corridor.

The co-ordinator for D.T. can give guidance and advise, provided plenty of notice is given, as some materials may need to be ordered.

Activities with resources

Delivery is achieved through a range of materials and related skills. At Key Stages 1 & 2 suitable materials include paper and card, construction kits, food, textiles, modelling materials, wood, metal and plastic. Children require a balance of teaching and learning inputs and a range of opportunities to demonstrate their capability.

The range of activities should therefore include:

- Focused practical tasks which focus on developing and practising a particular skill or knowledge.
- Practical activities which allow children to investigate, disassemble and evaluate simple products.
- Assignments in which children demonstrate their abilities to both design and make products following certain criteria, using a range of materials and components.

Children should be taught to work independently as well as working as members of teams, developing the abilities to:

- Persevere when making products.
- Collect and return tools and resources in a responsible manner.
- Work with due regard to their own and others safety.
- Maintain a tidy working area.
- Be aware of the initial criteria for their product and to appraise their work both through ongoing review and final evaluation.

Health and Safety

With regards to Health and Safety, the following areas are of particular note:

Organisation of resources: Safe storage which ensures tools are not damaged or mixed together should be used; children should not have to 'rummage' to find a tool.

Electrical things: Electrical equipment should not be brought in from home. ALL mains electrical equipment owned by the school must be checked regularly for safety before being used in school.

Using Electricity: Short lengths of wire must not be used directly between the terminals of 'high power' and particularly rechargeable cells, the heat of which may be generated in the wire could burn.

Using Food: The need for hygienic practices cannot be over emphasised. Food should only be consumed if the teacher is confident that such practices have been adhered to. If food is to be taken home, teachers should ensure that it can be transported 'hygienically'.

Things that are hot: Children are permitted to use low temperature glue guns with supervision.

Using machines: Children should not use any power tools in primary schools unless specifically designed for their use and under supervision (e.g. sewing machine)

Things that are sharp or pointed: Retractable craft knives are only used under supervision on a cutting mat with a metal safety ruler.