

Granby Primary School

Draft Design & Technology Curriculum Policy

2015

Introduction

Purpose of study Design and Technology is an inspiring, rigorous and practical subject. Pupils use creativity and imagination; they 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 use cross curricular skills from mathematics, science, 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 and development of children and is taught throughout both key stages.

Aims in Teaching Design & Technology

It is our aim 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.

Practical experiences, at the heart of this subject, need to foster positive attitudes towards overcoming problems, working collaboratively and developing a flexibility of approach. The subject serves to reinforce the notion that there

is no single ideal solution to a design project and that children have the freedom to explore their ideas within the specific design project.

Pupils are encouraged and challenged to reach their full potential through the undertaking of a wide range of practical tasks. Teachers will help and encourage wherever necessary so that all children, regardless of ability can experience success. All children will be shown how to evaluate their own work in a positive manner in order to facilitate their development, understanding and enjoyment of design and technology. Children's fear of failure needs to be understood and wherever possible tasks will be carried out in pairs or groups to maximise success and also to develop the important idea that design and technology is a co-operative activity as much as an individual one.

Learning Objectives

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the attainment targets.

Key Stage 1

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 wide range of tools and equipment to perform practical tasks under the supervision of an adult.

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 simple mechanisms in their products such as levers.

Cooking and nutrition

Use the basic principles of a healthy and varied diet to prepare dishes and understand that preparation of food can dangerous.

Key Stage 2

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.

Explore and use simple mechanisms in their products such as levers, gears and pulleys.

Make

Select from and use a wider range of tools and equipment to perform practical tasks

Select and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Incorporate simple mechanisms in their products such as gears, levers and pulleys that enhance understanding of movement and its significance in the wider world.

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.

Technical knowledge

Develop and apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Understand and use mechanical systems in their products.

Understand and use electrical systems in their products.

In year 6 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

Design and Technology teaching.

Each teacher has access to his her year group design projects on the staff drive compiled by the co-ordinator. The teaching of Design and Technology in each year group is arranged by the teaching staff. The unit may be carried out in a block of afternoons in a week, weekly sessions for a half term or alternate weeks with art as the teaching staff see fit.

These tasks should be set by the teacher, with the pupils working individually, in pairs or small groups and then reporting their findings.

Design & Technology projects in each year group folder can easily be adapted or supplemented by a wide range of alternative ideas and projects held by the coordinator. Year group tasks will be chosen by individual teachers in collaboration with the design and technology co-ordinator. Work plans will be prepared by the individual teachers for each half term and monitored by the Headteacher in collaboration with the curriculum co-ordinator.

The Role of the Design & Technology Co-ordinator

The Design & Technology Co-ordinator is responsible for the development and monitoring of the Design & Technology Curriculum. He/she is responsible for updating the school's policy and scheme of work. The co-ordinator is also responsible for the management of changes in the curriculum and resources. He/she is responsible for the monitoring of teaching and learning of Design & Technology throughout the school. He/she may be involved in class teacher's planning and will provide any necessary support.

Resources

The National Curriculum documents a wide range of materials and equipment to be used within the subject. The co-ordinator will be responsible for ordering and management of the equipment and materials. Due to limited space available for storage, teachers will need to give at least 2 weeks notice to the coordinator if materials are needed. The coordinator will be responsible for ensuring that tools kept at school are up to date and of good quality. Teachers should advise of any breakages or damage.

Assessment & Record Keeping

The monitoring of the standards of children's work and of the quality of teaching in design and technology is the responsibility of class teachers and the design and technology co-ordinator. The work of the co-ordinator also involves supporting colleagues in the teaching of design and technology, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The design and technology subject leader gives the head-teacher an annual report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

The school will also evaluate and monitor the teaching and learning of pupils in the following ways:

The co-ordinator will observe and assess finished work displayed in the classroom or around school and provide teachers with help and feedback. The co-ordinator will also monitor the way in which the subject is being taught by watching lessons from each year group.

The class teacher will assess individual pupil's attainment against the learning objectives outlined in the scheme of work. Teachers will gather evidence of children's work in the form of photographs, videos and diagrams in children's design books.

Health & Safety

The teacher will be responsible for the health and safety of themselves, classroom assistants, visitors and pupils within their class.

Pupils will be expected to;

1. Collect and return tools and equipment safely.
2. Follow clear instructions.
3. Only move around the classroom when necessary.
4. Wear safety equipment whenever necessary.

To ensure the safe use of tools and equipment, it is important that teachers are confident when handling the tools and equipment, so that they can demonstrate correctly. All pupils should be clear on the intended use of the tools. Pupils should have safe, controlled access to tools and equipment during the Design & Technology lesson.

Where practical, an area within the classroom should be set up for Design & Technology for part of the year. This area should be safe, uncluttered and stimulating.

Risk assessments should be carried out prior to every lesson. Teachers must ensure that children busy on Design & Technology tasks can work safely. This means that they have been instructed in the use of the techniques or

materials, that they use the right safety aids (safety ruler), and that the teacher provides an appropriate level of supervision.

Units of work

In addition to the QCA units of work teachers may also choose from Nuffield units to support classroom activities to best effect. Teachers may also carry out projects in addition to QCA and Nuffield after discussion with the coordinator. All year groups are required to teach at least one unit per year that incorporates movement in the project.

Teacher Resources.

A range of books and cd roms are available for teachers to use that illustrate a range of ways in which children can be helped to achieve their design objectives. These are kept in the design co-ordinator's classroom.