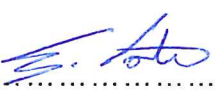


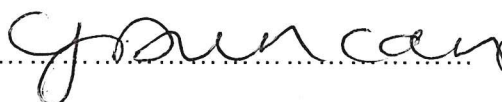
**Orrets Meadow School**

# **Design & Technology Policy**

This Policy was approved by the Governing Body

Review Date:

Signature  24/11/2016 (Chair of Governors)

Signature  (Headteacher)

## Design and Technology Policy

### Introduction

Orrets Meadow School embraces Design and Technology as an integral part of the curriculum. It is considered valuable not only for the planning and organisational skills that it promotes, which are essential for the children but also the important emphasis on health and safety aspects, which are the basis for all practical work.

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.

### **Objectives:**

Regardless of gender, ethnic origin or ability, we specifically aim 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 principals of nutrition and learn how to cook. This is a crucial life skill that enables pupils to feed themselves and others well, now and in later life.
- Understand seasonality and know where and how a variety of ingredients are grown.

### **Philosophy:**

Within Design and Technology at Orrets Meadow, children will be given opportunities to experience working in groups, in pairs and independently.

All Design and Technology studies should emphasise the need for careful planning and organisation. This is required both for the equipment that is being used and for the activities planned for the children.

Safety aspects should be discussed.

### **Content:**

In Design and Technology, children acquire and apply knowledge and understanding of:

- Materials and components
- Mechanisms and control systems
- Structures
- Food and horticulture
- Existing products
- Quality

- Health and safety

**Children will:**

- Develop designing skills, including generating and developing ideas, clarifying a task, creating design proposals, communicating ideas, planning and evaluating.
- Acquire and refine the practical skills associated with making, including working with materials and components, tools and processes, e.g. planning, measuring and marking out, cutting and shaping, joining and combining, finishing and evaluating.
- Apply scientific skills, e.g. predicting and fair testing;
- Apply mathematical skills, e.g. measuring, drawing and interpreting tables, graphs and charts.
- Apply computing skills, e.g. making things happen by the use of control, handling information through the use of a database or spread sheet;
- Apply art skills, e.g. investigating texture or recording visual information.

**Children will have opportunities in design to:**

- Work independently and with others, listen to the ideas of others and treat these with respect.
- Be creative, flexible and show perseverance.
- Critically evaluate existing products, their own work and that of others. They will use Orrets Meadow's evaluation system.
- Develop respect for the environment and for their own health and safety and that of others.
- Recognise the strengths and limitations of a range of technologies and appreciate which are appropriate for particular situations.



- Develop their cultural awareness and understanding and appreciate the value of differences and similarities.
- Develop and understanding that all people are equal regardless of age, race or gender or ability and that there needs to be alternative solutions to meet the needs of individuals and groups of people.
- Find enjoyment, satisfaction and purpose through designing and making.
- Apply value judgements of an aesthetic, economic, environmental, moral, scientific and technical nature.

### Key Stage 1

At Orrets Meadow School we have a new intake of ASC children who are Key Stage 1.

These children will through a variety of creative and practical activities, be taught the knowledge, understanding and skills needed to engage in an interactive 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].

At the end of Key Stage 1 most pupils will be able 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 interactive 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].

By the end of Key Stage 2,most children will be able 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 constructional 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.

### **Planning:**

When planning the following should be kept in mind:

- IDEAS: investigating, disassembly and evaluation activities (how familiar products work and what they are supposed to do).
- FPTs: Focused Practical Tasks (developing a range of techniques, skills, process and knowledge).
- DMAs: Design and Make Assignments using a range of materials.
- KS1: Including food, textiles and items that can be put together.
- KS2: Including electrical and mechanical components, food, mouldable materials, textiles and stiff and flexible sheet material.

### **Assessment:**

Pupils should be actively involved in evaluating their work and thinking about possible improvements. The actual work that children will produce will serve as a record of achievement, therefore it is not necessary to make detailed records of each child in relation to outcomes. However, teachers may wish to make notes about individual children's development or take photographs to evidence a child's progress. Lesson plans should be annotated, stating which children are emerging learners, expected outcome or exceeding.



## **Monitoring and Reviewing**

The Design and Technology co-ordinator is responsible for monitoring the standards of children's work and the quality and breadth of teaching. The co-ordinator supports colleagues by ensuring they are informed about current developments in the subject. This has included guidance on the New Curriculum's content.

The co-ordinator is also responsible for evaluating strengths and weaknesses in the subject and identifying areas for improvement and development.

Photographic evidence is collected from each year group.

## **Resources:**

There are basic resources located in a central resource area (glass corridor) and some resources are located within individual classrooms.

Before stock is ordered, teachers should fill out a request list based on specific needs for future lessons.

Children are encouraged at all times to care and respect their working environment, selecting, using, storing and returning their own materials and equipment tidily, safely and with regard to economy of use.

## **Health and Safety:**

The general teaching requirement for health and safety applies in this subject.

Teachers will carry out a risk assessment before each activity, considering their tools, materials and equipment being used. Before

undertaking practical tasks, children should be taught to use tools correctly in order to ensure safety.

Special care should be taken with sharp tools and hot substances.

Design and Technology will be embedded within the New Primary Curriculum.

Each Class will plan and implement Design and Technology, deliver it safely and incorporate key skills which will be practised and perfected.

Every child has the right to:

- Be safe
- Enjoy and achieve
- Be healthy
- Achieve Economic Well Being
- Make a positive contribution.

This document has been compiled by Mrs L Tunna (Co-ordinator)

This document has been amended, taking into account the Programmes of Study for the New Curriculum.

All staff are responsible for implementing this document. Overall responsibility lies with the Head teacher.

**Amended November 2014**

### **Related Policies:**

- PSHE and Citizenship
- Healthy Schools
- Equal Opportunities
- Risk assessment

### **Management**

Children should gain a good understanding of Mechanics, structures, Control and quality of product. Now that the New National Curriculum has been introduced, children will work on Design and Technology within the Creative Curriculum Topics that they are working on in their year groups.

It is important that children should have experience of using a range of materials.

### **These include:**

- Construction kits
- Flexible sheets
- Stiff sheets (card)
- Framework (wood, foam board and corrugated)
- Food
- Electrical/Mechanical
- Mouldable (Clay, plasticine, plasazote)

- Textiles
- Flowal mimics

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.

Children will need to be taught the basic skills and the need to organise the environment in order to make it a safe place to work and also to ensure the equipment/tools are readily available. Children will be encouraged to evaluate products and their applications prior to completing a Design and Make assignment.

During the evaluation process children should state whether their product is fit for purpose.

Children should be encouraged to be critical of their work and highlight improvements that could be made and how this can be done.

They should self assess using Orrets Meadow's self assessment procedure.