



## Design and Technology Policy

### Background

Design and Technology (DT) is an inspiring, rigorous, 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.

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.

### Statutory Guidance Aims

The National Curriculum for DT 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.

### Teaching and Learning in DT

All lessons need clear learning objectives which are shared and reviewed with the pupils effectively. A variety of strategies are used to assess progress. The information is used to identify what is taught next. Lessons must make effective links with other curriculum areas and subjects where possible, especially within English, Mathematics and Science. Activities should be challenging, motivating and extend pupils' learning. As they move through school pupils have more frequent opportunities to develop their skills and select and use appropriate resources and tools, and combine these for a given purpose with confidence.

### Making Cross Curricular Links

At Allerton CE Primary we believe that making links between curriculum subjects and matters, skills and processes will deepen the children's understanding by providing opportunities to reinforce and enhance their learning. A majority of the formative assessment for DT may be taken from cross curricular work where children are applying taught matters, skills and processes.

### Continuity and progression

The school ensures curriculum continuity by close liaison between staff and the planning stages.

### 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 used 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.

## **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:

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

## **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 vents 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 o program, monitor and control their products

### **Cooking and nutrition**

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- 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.

### **Inclusion**

Planning at all levels ensures that the interests of boys and girls are taken into account. At Key Stage 1 the pupils are grouped in mixed ability age groups and gender groups for all activities. In Key Stage 2 pupils may be grouped by ability within their age group.

The pupils work individually, in pairs, as part of a small group and as a whole year group each term. They use a variety of means for communicating and recording their work.

All pupils, including those with special educational needs, undertake the full range of activities. Teacher assessment determines the depth to which individuals and groups go during each unit of work.

### **Implementation**

Computing is taught discretely for one hour per week with the children then being provided with opportunities to develop their skills in cross curricular activities.

### **Equal Opportunities and Differentiation**

It is important when planning work in DT that the teacher pays close attention to equal opportunity in respect of gender, race, the needs of the most able children and those children with special educational needs.

### **Points for consideration by teachers when planning Design Technology work are:**

- Promoting Design Technology equally to both sexes
- Using material that is attractive to all children - particular care should be taken when using illustrations in books or worksheets
- Planning work so that racial ethics are given consideration, especially in work connected with the human body and food
- Catering for the needs of the most able and those with learning difficulties. Will the work provided enable all children to feel that they are achieving and progressing?
- Initiating positive corrective action where there is evidence of underachievement by any group.

### **Activating Prior Knowledge**

Using prior assessment information to guide activities and strategies this enables teachers to accurately identify the start point for learning.

### **Learning Intentions/ Objectives**

Based on prior assessment information and outcomes from the activation of prior knowledge teachers identify ordered learning objectives for each group within the class to ensure that progress in learning is made. Learning objectives and success criteria are to be shared with the children at the beginning of each Design Technology lesson so that children know their learning steps throughout the lesson.

### **Differentiation**

There are a number of different forms of differentiation:

- By outcome, where a task is given and the children respond at different levels
- Different tasks around the same topic matched to the needs of the children
- Variety of input for the same task
- Variety of questioning
- Completing different tasks

### **Contribution of Design Technology to other areas of the curriculum**

Activities within Design Technology allow children to develop their skills in other areas of the curriculum such as Mathematics (measuring and estimating); Science (testing to see if their prediction/ prototype 'works' the way that they expect); Literacy (communication with peers and research to find information).

Appropriate vocabulary (and the correct use of this vocabulary) should be encouraged both orally and when recording across the curriculum.

### **Role of the DT Coordinator**

- to coordinate the teaching of DT within the school
- to be involved in the induction of new staff
- to monitor the use of the policy and scheme of work
- to ensure continuity and progression of the teaching and learning of DT across the Key Stages
- to review the Policy and Scheme of Work
- to make staff aware of DT courses on offer and encourage them to attend when appropriate
- to provide, where necessary, staff training and development
- to show by example and good DT practice

### **March 2018**

This Policy has been drawn up and written by the DT Coordinator with the School Council and staff. This will be reviewed when updated legislation or guidance is issued by the DfE, Local Authority or other relevant organisation.

This will be reviewed annually by the Governing Body.

Drafted by: Sam Kay

Date: Annually