



# Design and Technology Policy

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## Information Page

### **Links to other policies/documents**

Risk Assessment Folder

Pupils' Medical Needs Document

Child Protection and Safeguarding Policy

Health and safety Policy

School Development Plan

Teaching, Learning and Assessment Policy

Curriculum maps

Equality Policy

Design and Technology progression of knowledge and skills

## **Rationale and intent**

At William Reynolds Primary School and Nursery, we recognise the importance of encouraging pupils to think and intervene creatively to solve problems around them. Children will develop technical understanding, skills, learn about design methods and investigate their environment and everyday materials.

Our four principle aims for Design Technology (DT) - from the National Curriculum in England - are for all pupils 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.

We are committed to encouraging children to foster an enjoyment, satisfaction and purpose in designing and making. It provides first-hand experiences for children to explore attitudes towards the world and how we live and work within it.

The core of our DT curriculum is the National Curriculum for England.

The National Curriculum organises the Design and technology attainment targets under 5 subheadings:

- Design
- Make
- Evaluate
- Cooking and Nutrition
- Technical knowledge

Our progression of knowledge and skills document shows how we cover each of the NC attainment target within the five strands. All classes will have scheduled Design and Technology lessons each half term and in EYFS Design and Technology is embedded through continuous provision as well as taught lessons.

## **Teaching and Learning**

### **Foundation stage**

The EYFS curriculum includes rich opportunities for pupils to express and develop their own creativity and imagination with materials and food. Within the Foundation Stage, pupils explore and play with a wide range of media and materials. They make use of props and materials through role play. They are then encouraged to share their creations, explaining the process they have used. DT is embedded through continuous provision as well as taught lessons where pupils use and explore a variety of materials, tools and techniques, experimenting with form and function and joining techniques. All pupils are given the opportunity to share their creations, explaining the process they have used.

## **Key Stage 1 and 2**

In Key Stage 1 and 2, through a variety of creative and practical activities, pupils are taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They work in a range of relevant contexts to design, make and evaluate using their technical knowledge. As part of their work with food, pupils are taught how to cook. Through this, a love of cooking is instilled in pupils. 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.

From years 1 - 6 pupils are taught how key events and individuals, in design and technology, have helped shape the modern world and understand the value of design in society.

In Key Stage 2, pupils are encouraged to master design techniques through selecting appropriate tools and equipment, materials and components from a wider range offered.

## **Medium Term Planning**

Detailed medium-term planning supports teachers to plan a sequence of progressive lessons and over time, giving the children opportunities to master new substantive concepts. Within this document, key objectives and vocabulary are outlined as well as identified investigative and focussed tasks. Progression of knowledge and skills documents are used to support the medium-term plan, ensure that staff are delivering a consistent and challenging curriculum. Sketch books are used within Key Stage 1 and 2 to record their evaluation of existing products, product design, product manufacturing and final evaluations.

## **D&T Technical Units**

Each unit usually consists of:

### **Brief**

A real-world and relevant brief should be provided at the beginning of each unit (Something for Someone for Some purpose) so that the children are clear on what they are focussing on.

### **IDEA (Investigative, disassembly and evaluative activity).**

1-3 existing designs should be evaluated at from the point of view of purpose, features, shape and ergonomics, materials and construction methods. The children's finding should be recorded along with an image of the product they have evaluated.

### **FT (Focussed Task).**

Focussed Tasks should be undertaken to develop any specific skills or understanding needed to undertake the IDEA or DMEA elements of the DT process. They can be either used to reinforce prior learning (i.e. constructing circuits which has previously been taught in science) or to teach new skills or knowledge relating specific skill (Such as learning about the operation of levers and linkages or the use of specific tools)

### **DMEA (Design, Make and Evaluate Assignment)**

Bringing together what has been learnt in the IDEA and FTs the DMEA should include creating a labelled drawing of the design identifying key features/materials and listing what will be required to make it. Children will then design the prototype before evaluating the design including at least two positives and one area for improvement. If appropriate, they can redesign, make and evaluate a second prototype based on the evaluation of the initial design.

### **Role of the Subject Leader:**

The role of the subject leader is to;

- Advise and support staff in planning, teaching and learning of design and technology
- Monitor teachers' planning as part of on-going subject monitoring and evaluation of practice
- Use feedback from monitoring to develop an action plan for design and technology with realistic and developmental targets
- Audit, identify, purchase and organise all design and technology resources, ensuring they are readily available and well maintained
- Document and review the agreed ways of working through a written policy document
- Keep up to date on the use of design and technology in the curriculum
- Promote design and technology throughout the school

### **Spiritual, Moral, Social and Cultural Development**

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Our groupings allow children to work together and give them the chance to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in Design and Technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, including the contribution that people from other cultures have made to the design and technology industry. They learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

### **Resources**

Primary resources e.g. materials, sewing equipment and construction kits are stored centrally in the DT area which is located in the KS2 quad area. It is important to ensure that resources are labelled, tidy and ready for use.

There is also a DT cupboard located in the DT area which contains saws, drills and other controlled tools and equipment. Keys for this cupboard are held in the main office and by the DT subject leader.

Cooking equipment and utensils, for use in KS1 & KS2, are stored centrally in a clearly marked cupboard in the ICT suite. There is a separate set of utensils, stored in a dedicated box marked "Gluten Free" which is controlled by the Subject Leader. These utensils are kept segregated and are sterilised, by staff, after every use before being returned to the dedicated box. Also stored in the ICT suite are eight tabletop, single hob, units.

Additionally, there are four mobile trolleys equipped with small tabletop cookers with hob/oven/microwave configurations designed to be taken into classrooms for use in cooking activities. These are stored in the ICT suite cupboard.

### **Use of I.C.T**

Information and communication technology enhances the teaching of design and technology, wherever appropriate, in all key stages. Children use software to enhance their skills in designing, making and, in upper Key Stage 2, controlling products. The children also use ICT to collect research on notable designers, innovators and the history of their unit's area of technology.

### **Online Safety**

As part of our commitment to Safeguarding, online access during lessons is carefully planned for and monitored.

To support children's learning in DT, pupils may use specific online content or models and images on the computer. These will be carefully selected by the teacher to ensure that they add value or consolidate the learning and that they are age appropriate and safe. Independent research, where necessary, will be monitored by the class teacher or teaching assistant and will be conducted using a child safe search engine such as 'KidRex.org'

### **Health and safety**

Health and safety is important, particularly when working with tools, equipment and resources. Children should be given suitable instruction on the operation of all equipment before being allowed to work with it.

#### **Children need to be taught how to:**

- use tools and equipment correctly
- recognise hazards and risk control

#### **Children should be:**

- supervised in their use of equipment at all times.
- taught to respect the equipment they are using and to keep it stored safely while not in use.
- taught to recognise and consider hazards and risks and to take action to control these risks, having followed simple instructions.

### **Food Hygiene**

- Pupils and staff will take care to undertake appropriate hand washing and other hygiene related activities prior to preparing food.
- Pupils and staff working with food must wear aprons designated for cooking.
- Painting equipment must not be washed up or used in the sink in the kitchen areas in the Nursery and Nurture room.
- All jewellery should be removed, and hair tied back.

### **Glue Guns**

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

### **Craft Knives**

- Key Stage 2 children 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.
- Safety goggles must be worn and any loose items of clothing/hair must be tucked in.

### **Risk assessment**

Generic risk assessments have been completed, by the subject leader, for food Hygiene, the use of Glue Guns, and the use of cutting tools. These are stored under Design Technology in the Risk Assessment folder on the T:\ drive. When undertaking a class activity involving these areas, it is the class teacher's responsibility to use a copy of the relevant assessment(s) to amend to reflect their specific need and then process for signatures and filing as above. The list of generic risk assessment and their contents may be subject to change at any time, as determined by the subject leader, and should be checked every time an activity is planned.

### **Equal opportunities**

Equal opportunities are considered when we decide upon the resources we provide and the teaching strategies we employ. In our curriculum planning, we ensure that all children, with due respect to their culture, religion and background, have equal access to all areas of the curriculum, extra curricular activities, all areas of the grounds, equipment and resources, the staff, and time to contribute to the whole class and group work.

### **Impact**

The impact of our Design and Technology curriculum is that:

- Pupils make progress in range of design processes and techniques through taking risks, becoming resourceful, innovative and enterprising.
- Pupils know how design and technology has shaped the modern world, historically and culturally.
- Pupils understand the value of DT and how it is used in everyday life.
- Pupils are prepared for their next stage in DT education and beyond.
- Pupils understand and can apply the principles of a healthy and varied diet