

# Darwen St James'

C of E Primary Academy



## Design and Technology (DT) Policy

## **Mission Statement**

Nurturing ambition through a living faith.

## **Vision**

Our academy delivers a purposeful curriculum through its living Christian faith. We nurture ambition in all our learners in order for them to become positive citizens of tomorrow.

## **Bible**

Let us not love with words or speech alone but with actions and truth. John

3:18

## **Definition**

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. National Curriculum 2014

## **Aims**

The national curriculum for design and technology 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 Objectives**

National Curriculum subject content;

### **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 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 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 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

### **Creative Curriculum Map**

A topic grid is included with this policy along with the Key Skills to be completed across both

Key Stages 1 and 2.

### **Planning**

There is a programme of study for Design and Technology in place from Year 1 to Year 6 that is taught through our Learning Challenge Curriculum using PlanBee and DT Associations.

Skills in the Foundation Stage are planned through the objectives within the EYFS.

Teachers from the Foundation Stage to Year 6 will plan to ensure full coverage of the skills relating to the Design and Technology curriculum for that year group throughout the year. Teachers will plan before the start of each new theme, and at this point highlight the skills to be covered. Teachers in each year group will meet on a weekly basis to plan lessons connected to each particular unit.

Although the individual lessons might, by the very nature of creativity, be slightly different from class to class within a year group, the most important aspect to consider is the skills that need to be covered.

### **Record Keeping, Assessment and Reporting**

As with all areas of the curriculum, assessment is an integral part of the teaching process. Class teachers should keep records of work carried out, and levels of achievement of the work. Photographs are a useful tool to keep, as a reminder of pupil's achievement. Formative assessment is used to guide the process of individual pupils in Design and Technology. It involves identifying each child's progress in each aspect of the curriculum, determining what each child has learned and what should therefore be the next step in their learning. Formative assessment is mostly carried out informally by the teachers in the course of their teaching and should be based on the identified assessment opportunities. Teachers work closely with each other to moderate children's art work and children's knowledge skills and understanding are then tracked using the schools 'Foundation Subject Tracker. Children's progress in Design and Technology is reported to parents through the pupil annual report and consultation meetings throughout the year.

### **Speaking and Listening**

Pupils are encouraged to provide specific evaluation of each other's work through verbal peer-assessment strategies.

## **Monitoring**

The monitoring of coverage and progress across the school will be done by the subject coordinator in consultation with teachers and the SLT.

## **Inclusion**

At Darwen St James' we plan to provide for all pupils to achieve, including boys and girls, higher achieving pupils, gifted and talented pupils, those with SEN, pupils with disabilities, pupils from all social and cultural backgrounds, children who are in care and those subject to safeguarding, pupils from different ethnic groups and those from diverse linguistic backgrounds.

## **Equal Opportunity**

Care should be taken to give each child the opportunity to learn about the global community, regardless of race, Religion, language or gender.

## **Health and Safety**

Children should be working in a safe environment both inside and outside of the classroom. The relevant risk assessments must be completed when using any potentially dangerous equipment, such as scissors or craft knives. When conducting fieldwork, children should be properly supervised and should be made aware of any potential dangers, such as busy roads or water hazards.

## **Parental Involvement**

As with all areas of children's learning we need the support of parents and carers to help us to maximise the development of each child's potential. This would include helping the child with any research or homework that may be set. Asking parents to come and share their skills and experiences. As well as joining in with the celebration of their children's achievement and success.