

Introduction

Design Technology (D&T) plays an important part in our school in the development of the pupil's understanding and enjoyment of the real world in which they live. It also contributes to their personal and social education, particularly in relation to industrial understanding. D&T also enables pupils to appreciate the variety of materials, equipment and how to use them to make purposeful products with a user in mind. D&T also gives all pupils an awareness that they can affect and control their environment through editing and changing their product, while being involved in relevant, enjoyable and meaningful experiences. They gain a broad range of subject knowledge and draw on other subjects such as Maths, Science, Computing and Art. During their time at Upperby, pupils have opportunities to build up a variety of skills in order to plan, create and evaluate their ideas and products.

Main Skills

There are four main skills that children should be taught to develop in Design Technology: **Designing, Making, Evaluating and Technical Knowledge**. These involve designing and making products, investigating and evaluating simple products and focused practical tasks. Children should be taught, through a variety of creative and practical activities, the knowledge, understanding and skills needed to engage in a process of designing, making and evaluating, whilst acquiring and learning technical knowledge.

Children in the early years, in KS1 through to KS2 are given the opportunity to do at least one product to design, make and evaluate each term. These focused activities mostly arise from their termly topics and are based on new skills they need to learn. These activities are sometimes based on an identified need as well.

KS1 is broken down into five categories of skills; **Textiles, Mechanisms, Construction, Materials and Cooking/Nutrition**. At KS2 the skills are broken up into four categories of **Textiles, Mechanical and Electronic Components, Stiff, Flexible and Moldable Materials and Cooking/Nutrition**. Children in KS2 build on skills learned at KS1 and take them further, using tools more expertly and independently, using more detailed designs and formal evaluations, justifying their products and changes. KS2 also incorporates more Mathematical and Scientific knowledge.

The **National Curriculum** states that Cooking and Nutrition should be delivered to all children in KS1 and KS2. In KS1 children are expected to learn where food comes from, what constitutes a healthy diet and starting to make simple dishes whilst guided by an adult. In KS2 children would prepare and cook savoury dishes, using equipment more expertly and independently, and learn more about the safety/hygiene of food, how to store it, the importance of ingredients and having a user in mind.

Implementation

All children are given the opportunity to be involved in activities which will improve their designing, making and evaluating skills. These activities enhance pupils' knowledge and understanding of an increasing range of materials, mechanisms and structures, types of control and methods of fixing. Designing and making activities also draw upon scientific knowledge and mathematical skills children have learned. Learning skills include: observation, communicating information, asking questions and solving problems, looking at existing products, applying learning through a variety of ways.

D&T is found throughout many places in the Early Years curriculum. Children are given many opportunities to design, create and evaluate their own products and inventions and also given the opportunities to make some structured products as a class. Children have the chance to undertake simple making tasks based on reclaimed materials, textiles, food and construction kits, using pre-chosen materials. Children are given the opportunity to practice key skills such as cutting, threading, joining, designing as well as stretching their fine and gross motor skills. They select materials, tools and techniques for making and can simply evaluate their work.

At KS1 children will be able to start more formal and detailed designs using labels, captions and annotations. Children will start to use a wider range of materials for construction and textiles. They will start using simple joins and mechanisms in their products. They will research existing products and evaluate their products by making simple suggestions of what went well and what they could improve next time. This is also done through collaboration and peer evaluation.

At KS2 children have the opportunity to work on more complicated design and make tasks. Children also think about criteria for design, thinking about issues like safety and reliability. They also have experience of creating and using work plans in making from their designs. Pupils use a greater range of materials than those in KS1 including, moldable materials, and electrical and mechanical components. They also evaluate their work and products in a more detailed manner, suggesting improvements and justifying their reasons and given the chance to improve and adapt their product.

Teaching involves direct teaching – demonstration of skills, techniques and the correct use of tools. But opportunities for open-ended project work, where the teacher offers advice and guidance are also provided where children are free to make their own choices of materials/tools to learn about their suitability themselves.

Key Skills

Practical skills and processes: assembling, joining, cutting, bending, forming, tying, shaping and modelling, problem solving, testing, finishing, colouring, organising materials, clearing away, using tools safely.

Perceptual skills: analysing, observing, planning, evaluating, investigating, problem solving, decision making.

Personal qualities and attitudes: creativity, enterprise, imagination, initiative, flexibility, invention, motivation, perseverance, collaboration, reliability.

Assessment and Record Keeping

Teacher's monitor pupil progress over the course of each project. At the end of each project/enquiry, teachers are to tick which skills have been covered and assess children against the performance descriptors. Children record any work and teachers can record pictures in the back of the sketch books.

Health and Safety

Children work safely in uncluttered surroundings and are properly supervised during D&T tasks. They are taught the correct use of tools and equipment, and are made aware of the dangers and how to avoid them by working safely. Potentially dangerous tools and equipment are stored in cupboards out of reach.

Monitoring and Review

The subject leader monitors the effectiveness of the policy and reports to the head teacher. The head teacher reports to governors, when requested, on the effectiveness of the policy. The policy will be reviewed every two years.