

Tollerton Primary School

DT Curriculum Rationale

At Tollerton Primary School, Design Technology is taught in all year groups through three units each academic year, one per term. These units are designed to provide children with opportunities to develop their knowledge and skills in a breadth of DT strands – food, mechanisms, structures and textiles. In each unit, children develop their proficiency in the designing, making and evaluating stages of the Design Technology process – we refer to these (alongside Technical Knowledge and Vocabulary) as being the Elements of DT. Our curriculum is constructed so that not only do children have the opportunity to work in a breadth of contexts and undertake a range of projects, but also so that they develop a deepening understanding of each of these Elements as they progress through school. Thus, by the time they leave us for secondary school, children have a strong foundational knowledge to enable them to thrive in DT lessons, having developed early expertise in the subject.

Our DT units of work have been informed by the DT Association, and whilst each unit of DT is taught and learned for its own purposes, teachers have planned for cross-curricular links to other subject areas where these links are meaningful and enhance children's learning. The teaching of Design Technology across our school applies the National Curriculum through the use of Design and Technology Association's 'Projects On A Page'. These 'Projects on a Page' ensure that DT makes a high-quality contribution to a broad and balanced primary curriculum, and help to raise standards in English and Mathematics. Research suggests DT is one of primary-aged children's favourite subjects, and thus our DT units seek to maximise their enjoyment by providing scope for teachers to meet children's needs and interests through creative and motivating projects in a range of contexts.

Design and Technology is an inspiring, rigorous and practical subject, and encourages children to develop creativity, resourcefulness, and imagination. Pupils design and make products that solve real and relevant problems within a variety of contexts, often applying knowledge and skills they have gained in other curriculum areas, particularly Mathematics, Science, History, Computing and Art. Children learn to take risks, innovate, and be reflective, enterprising and resilient. Through the evaluation of past and present technology, children reflect upon the impact of Design Technology on everyday life and the wider world.

Food technology is learned across the school, with children developing a deepening understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this in ways that are practical, safe and hygienic.

National Curriculum 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.

Early Years Foundation Stage - Summary

During the EYFS, pupils explore and use a variety of media and materials through a combination of child-initiated and adult-directed activities. They have the opportunities to learn to:

- use different media and materials to express their own ideas;
- use what they have learnt about media and materials in original ways, thinking about form, function and purpose;
- make plans and construct with a purpose in mind using a variety of resources;
- develop skills to use simple tools and techniques appropriately, effectively and safely;
- select appropriate resources for a product and adapt their work where necessary;
- cook and prepare food adhering to good health and hygiene routines.

National Curriculum requirements at Key Stage 1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in the process of designing and making.

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.

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Pupils should be taught to:

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

National Curriculum requirements at Key Stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in the 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, such as 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 as gears, pulleys, cams, levers and linkages);
- understand and use electrical systems in their products, (for example series circuits incorporating switches, bulbs, buzzers and motors);
- to apply their understanding of computing to programme, monitor and control their products.

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:

- 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;
- to understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.