



Conifers Primary School

Design and Technology - Curriculum Intent, Implementation and Impact

Intent

At Conifers Primary School, we want to allow children to aspire to be more through creating opportunities for them in the wider world. Through the design and technology curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real life purpose.

The National Curriculum for Design and Technology Aims 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.

Implementation

All teaching of design and technology should follow the design, make and evaluate cycle. Each stage should be rooted in technical knowledge. The design process should be rooted in real life, relevant contexts to give meaning to learning. While making, children should be given choice and a range of tools to choose freely from. To evaluate, children should be able to evaluate their own products against a design criteria. Each of these steps should be rooted in technical knowledge and vocabulary. Design and technology should be taught to a high standard, where each of the stages should be given equal weight. There should be evidence in each of these stages in the topic books.

EYFS:

Design and technology in the EYFS Curriculum, enables children to make sense of the 'made world' in which they live. By making, changing and modifying (or designing) things for themselves, children gain knowledge and understanding of their world. In the EYFS, children will:

- Investigate through heuristic play, treasure baskets, and collections of natural and manufactured resources
- Play with everyday objects such as empty boxes, blocks and construction materials
- Experiment with tools such as scissors, hammers, hole punches
- Make use of fixing and joining materials such as sellotape, masking tape, string, pipe cleaners.
- Produce items which represent other objects
- Produce items that look and function more like purposeful objects
- Early interest in playing with dough (or even pastry) may become more focused on producing something which can actually be eaten.
- Children may begin to want to make bags for their shop, create signs for their library, put a lighting system into their cardboard house or explore ways of channelling water.

The children in the EYFS will also be beginning to use a wider range of tools and materials:

- Cutting - scissors (ideally different ones for paper and fabric, as paper blunts the scissors, making it harder to cut fabric), knives (for cooking), safety snips (for card and plastic), saws (for wood)
- Use more demanding materials - including fabric, card, foil, plastic, wood
- Make holes - single hole punch, tapered reamer, hand drill.
- Increase challenge by including different thicknesses of card, cardboard cylinders, plastic bottles - of card, cardboard cylinders, plastic bottles
- Moulding and squeezing - sand, play dough, clay, bread dough, papier mache
- Join or link papers, boxes, trucks, fabrics - with string, glue, masking tape, treasury tags, elastic bands, plastic nuts and bolts, clothes pegs.

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

Impact

Ongoing assessments take place throughout the year and at the end of each topic. Teachers use this information to inform future lessons; ensuring children are supported and challenged appropriately.

Children in Foundation Stage are assessed within Understanding World and Expressive Arts and Design and their progress is tracked termly using DC Pro and Tapestry. Age related expectation levels are reported to parents at the end of the reception year.

The children's work is celebrated throughout our school displays.