



Design and Technology KS 1

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. 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.

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.

Lessons follow the Kapow Primary Scheme of Work and ensure that skills and subject knowledge build upon previous learning.

At Dane Ghyll Community Primary School pupils will be taught:

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.

Cooking and nutrition

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

Design and Technology – KS1

Year 1

Structures: Construction a windmill

Children will be:

- Creating a stable structure
- Using tools and equipment accurately
- Joining parts of a structure
- Evaluating structures

Textiles: Puppets

Children will be:

- Joining fabrics
- Using templates
- Decorating puppets

Cooking and Nutrition: Smoothies

Children will be:

- Identifying and describing where fruit and vegetables grow
- Practising food preparation skills
- Selecting ingredients for a recipe
- Apply food preparation skills
- Evaluating against a design brief

Year 2

Structures: Baby bear's chair

Children will be:

- Exploring features of structures and stability
- Experimenting with how shape affects strength of a structure
- Making a structure according to a criteria
- Producing and evaluating a finished structure

Mechanisms: Fairground wheel

Children will be:

- Exploring wheel mechanisms
- Designing a fairground wheel
- Selecting materials to build with
- Building a moving wheel
- Conducting surveys to gather opinions
- Evaluating structures

Mechanisms: Making a moving monster

Children will be:

- Looking at objects and understanding how they move
- Exploring different design options
- Making a moving monster

Key Skills Progression

Over the year, children will develop the following skills:

- Finding the middle of an object.
- Puncturing holes.
- Adding weight to structures.
- Creating supporting structures.
- Cutting different materials evenly and carefully.
- Evaluating and improving a product.
- Using a template to create a design for a puppet.
- Using joining methods to decorate a puppet.
- Chopping fruit and vegetables safely to make a smoothie.
- Juicing fruits to make a smoothie.
- Learning where and how fruits and vegetables grow.
- Tasting and evaluating different foods.

Over the year, children will develop the following skills:

- Generating and communicating ideas using sketching and modelling.
- Learning about different types of structures, found in the natural world and in everyday objects.
- Making a structure according to design criteria.
- Creating joints and structures from paper/card and tape.
- Building a strong and stiff structure by folding paper.
- Exploring the features of structures.
- Comparing the stability of different shapes.
- Identifying the weakest part of a structure.
- Testing and evaluating their own structures.
- Conducting simple surveys to gather opinions.

- Describing appearance, smell and taste.

- Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria.
- Creating ideas with design criteria in mind.
- Using labels to explain parts of a design, label materials, etc.
- Knowing that drawings can help explain how something works.
- Choosing materials, ingredients or components from a wider range of materials, ingredients or components and explaining their choices.
- Knowing some properties of materials.
- Following and recalling simple safety instructions.
- Knowing that some tools are sharp like scissors and knives.
- Beginning to shape objects to improve how they work.
- Evaluating existing products and their own ideas and creations against simple design criteria.
- Creating a design criteria as a class.
- Designing a moving monster for a specific audience
- Making linkages using card for levers and split pins for pivots.
- Experimenting with linkages adjusting the widths, lengths and thicknesses of card used.
- Cutting and assembling components neatly.
- Evaluating own designs against design criteria.