



Design and Technology

How is the Subject Content from the National Curriculum covered?

At St Joseph's, we believe that Design and Technology is an inspiring, rigorous and practical subject. Our Design and Technology curriculum allows children to exercise their creativity through designing and making. The subject develops children's creativity, sets them challenges grounded in real-life situations that engage and inspire, and equips children with the knowledge and skills to be resilient and solve problems. Through the evaluation of past and present design and technology, children develop a critical understanding of its impact on daily life and the wider world.

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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

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 **All units**
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology **All units**

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] **All units**
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics **All units**

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Evaluate

- explore and evaluate a range of existing products **All units**
- evaluate their ideas and products against design criteria **All units**

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable **(Cycle A, Spring 2 & Summer 2; Cycle B, Spring 2 & Summer 2)**
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. **(Cycle A, Spring 2 & Summer 2; Cycle B, Spring 2 & Summer 2)**

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 **All units**
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **All units**

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately **All units**
- 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 **All units**

Evaluate

- investigate and analyse a range of existing products **All units**
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work **All units**
- understand how key events and individuals in design and technology have helped shape the world **(LSK2 Cycle B Summer 2; UKS2 Cycle A Summer 2)**

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures **(LSK2 Cycle A Spring 2; UKS2 Cycle A Spring 2)**
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] **(LSK2 Cycle B Autumn 2; UKS2 Cycle B Autumn 2)**
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] **(LSK2 Cycle B Summer 2; UKS2 Cycle B Summer 2)**
- apply their understanding of computing to program, monitor and control their products. **(LSK2 Cycle A Summer 2; UKS2 Cycle A Summer 2)**

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Cooking and nutrition

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:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes **(Cycle A Autumn 2, Cycle B Autumn 2)**
- understand where food comes from. **(Cycle A Autumn 2, Cycle B Autumn 2)**

Key stage 2

- understand and apply the principles of a healthy and varied diet **(LKS2 Cycle A Autumn 2; UKS2 Cycle A Autumn 2)**
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques **(LKS2 Cycle A Autumn 2; UKS2 Cycle A Autumn 2)**
- understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed. **(LKS2 Cycle A Autumn 2; UKS2 Cycle A Autumn 2)**

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