



# Thornaby Church of England Primary School

## Design Technology

### Rationale

Design and Technology is an inspiring, rigorous and practical subject. Pupils use creativity and imagination; they 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 use cross curricular skills from mathematics, science, 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.

### 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.

Practical experiences, at the heart of this subject, need to foster positive attitudes towards overcoming problems, working collaboratively and developing a flexibility of approach. The subject serves to reinforce the notion that we do not always work towards pre-ordained solutions.

## Objectives

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

### Key Stage 1

#### 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 wide range of tools and equipment to perform practical tasks
- 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 in their products

#### Cooking and nutrition

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

### Key Stage 2

#### 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

- select 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

#### Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products
- understand and use electrical systems in their products
- apply their understanding of computing to program, monitor and control their products

#### Cooking and nutrition

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

#### Delivery

Design Technology is delivered through the Cornerstones curriculum. Work is differentiated either through planning or outcome as appropriate within each year group.

#### Health and Safety

- Use of materials, tools and techniques in accordance with health and safety requirements
- Appropriate storage of tools and materials
- Teaching pupils to recognise hazards in a range of products, activities and environments and take action to control the risks to themselves and others.

#### Resources

Classroom resources to include:

- A variety of regularly used tools and materials for cutting, shaping, joining and combining.
- Paper, card and sticky technology materials.
- Construction kits appropriate to the age of the pupils and the relevant topic.

Other resources include:

- A range of wood
- Plastics
- Textiles
- DT Project Kits

Assessment

Please refer to the Assessment, Recording and Reporting

Date:

January 2016

October 2016 to be revised October 2018

Revised October 2018 to be revised October 2020