

# Churchfield C.E. Primary Academy

*Walking together in the light of the Lord, we aim to create a supportive and safe environment where we encourage each other to be the best we can be. At Churchfield we learn to take pride in our successes and aspire to make a positive difference for ourselves, the local community, and the wider world.*



## Design and Technology at Churchfield

### Intent

In teaching Design and Technology at Churchfield C.E. Primary Academy we aim to prepare our pupils for a rapidly changing society. We believe D&T education stimulates creativity and imagination through problem solving both as individuals and as members of a team, and the production of quality products. Although it is taught discreetly to ensure coverage, we aim to, wherever possible, link work to other curriculum areas such as mathematics, science, engineering, computing and art. The children are given opportunities to reflect upon and evaluate its effectiveness; encouraging innovation and risk-taking.

### Implementation

Through a variety of creative and practical activities, we teach the knowledge, understanding and skills needed to engage in the interactive process of designing and making.

#### Early Years Foundation Stage

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:

- Joining different materials
- Building and strengthening structures
- Designing and building upon their own ideas
- Creating small world environments
- Reviewing and improving designs

#### Key Stage 1

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

In Key Stage 2 the children will learn to design purposeful products that are aimed at particular individuals or groups. They will develop their ideas through detailed planning, evaluating product design, observational drawings and making prototypes. They will learn how to use different joining techniques. They will make products and learn how to use a wide variety of tools, equipment, materials and components. They will learn how to include mechanical, electrical and computer control into products. They will learn to design and cook food with an emphasis on savoury dishes.

When designing and making, the children are 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 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
- Understand and use electrical systems in their products

- Apply their understanding of computing to program, monitor and control their products

### *Progression*

Progression in DT (across the Academy) will be assessed through work completed, displays, written work and photographic evidence, kept as a portfolio in each class and recorded on assessment grids. Design Technology is also monitored by the subject leader throughout the year in the form of pupil voice (to discuss their learning and understanding and establish the impact of the teaching taking place), professional feedback and staff meetings.

### Impact

We ensure the children:

- 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 and 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. Children will design and make a range of products. A good quality finish will be expected in all design and activities made appropriate to the age and ability of the child.