



## DESIGN & TECHNOLOGY

It is our intent at Phoenix Primary Academy to provide all of our students with a high-quality education in Design & Technology which develops their love of the subject and abilities to create their own design projects. They should also know how Design & Technology both reflect and shape our history, culture and creativity. Our planning is based on the national curriculum guidelines and as far as possible fits around other foundation subjects.

All students at Phoenix will be expected to achieve their full potential in their creativity and practical abilities. The ultimate aim is that students will feel confident to design, make and problem solve.

The national curriculum for art and design 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.

It is intended that when students leave Phoenix Primary Academy, they will have a natural curiosity and confidence to explore Design & Technology while knowing it is a valuable skill to be able to express themselves and their creativity.

Our Design & Technology curriculum has been designed to cover all of the objectives as set out in the National Curriculum. The curriculum has been planned and sequenced as units that link in with other foundation topic that are being taught in the same term. These units focus on the design, making, evaluating and technical knowledge. Students are taught Design & Technology or alternate terms and have weekly lessons of at least an hour long when this is timetabled.

Students are initially taught the skills and techniques to ensure that they have a secure understanding of using a range of media to create a final piece. This knowledge base and skill is then extended, allowing students to expand their Design & Technology vocabulary as well as build on their evaluation skills so that they are able to produce a final piece at the end of the unit. Students learn through research, discussion, demonstrations, experimenting with techniques, looking at key designers and evaluation.

At Phoenix, our designers are taught to develop a design project showing how they research, design, evaluate and develop ideas. Opportunities for students to research and explore a range of media/techniques before they create a final piece are given in each unit.



By the end of **Key Stage 1** pupils should be helped 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.

By the end of **Key Stage 2** pupils should be helped 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.



## 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:

- 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.

Design & Technology assessment is ongoing throughout each module to inform future planning, lesson activities and differentiation. Evidence is kept of children's work in books and data is monitored and moderated using the school's assessment programme.

An action plan has been created by the subject lead to monitor targets we wish to implement across the school. The Subject Lead will also liaise with all staff at regular intervals to discuss strengths and any emerging needs offering CPD where necessary. The Subject Leader monitors the effectiveness of the art teaching provided throughout the year with termly book looks, learning walks and student interviews. The class teacher will monitor the learning and progression made by students across the key stage by providing verbal and written feedback in books alongside entering data online.