



**Design and Technology – Curriculum Vision and Overview**

*Creating, confident, capable designers in a caring community*

At Skelton School it is our *intent* to provide high quality design and technology education. Design and technology is an inspiring and rigorous subject where children can use and develop their creativity and imagination to design and make real products which aim to solve real and relevant problems within a variety of contexts. Considering their own and others’ needs, wants and values. We aim to enable our pupils to develop their skills and knowledge in design, mechanisms, electrical control and a range of materials, including food. As well as subject specific knowledge pupils will also draw on disciplines such as mathematics, science, engineering, computing and art. Design and technology helps to equip pupils for the future. They will know how to take risks, be resourceful, innovative, enterprising and be capable, caring citizens. Through the evaluation of past and present designs pupils are able to develop a critical understanding of the role products play in daily life and the wider world. High-quality and engaging design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation. Children are born curious, our design and technology curriculum nurtures this.

**As designers we will demonstrate:**

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users’ needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge.
- The ability to manage risks exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.

**Breadth of Study - EYFS**

**Communication and language**

- Listen attentively and respond to what they hear with relevant questions, comments and actions during whole class discussions and small group interactions.
- Make comments about what they have heard and ask questions to clarify their understanding.
- Hold conversation when engaged in back-and-forth exchanges with their teachers and peers.
- Participate in small group, class and one to one discussions offering their own ideas, using recently introduced vocabulary.
- Offer explanations for why things might happen.
- Express their ideas and feelings about their experiences using full sentences.

**Personal, social and emotional development**

- Set and work towards simple goals.
- Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions.
- Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.
- Work and play cooperatively and take turns with others.
- Show sensitivity to their own and to others’ needs.

**Physical development**

- Use a range of small tools, including scissors, paint brushes and cutlery.

**Understanding the world**

- Know some similarities and differences between things in the past and now.

**Expressive art and design**

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
- Share their creations, explaining the processes they have used.

**Breadth of Study – KS1**

**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 such as 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, such as levers, sliders, wheel 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.

**Breadth of Study - KS2**

**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, such as cutting, shaping and 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 such as gears, pulleys, cams, levers and linkages.
- Understand and use electrical systems in their products such as series circuits incorporating switches, bulbs, buzzers and motors.
- Apply their understanding of computing to programme, 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.

**Threshold Concepts:**

**Master practical skills**

Developing skills needed to make high quality products.

**Design, make, evaluate and improve**

Developing the process of design thinking and seeing as a process. (Evaluate > design > make > evaluate).

**Take inspiration from design throughout history**

Appreciating the design process that has influenced the products we use in everyday life.