

Progression Document - Design Technology

Intent

Our core concepts in Design and Technology are: Design, Make, Evaluate and Technical Knowledge.

Our Design and Technology curriculum is based on the following principles:

- Ensure that children have a deep-rooted understanding of using creativity and imagination to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values.
- An acknowledgement that children need to revisit and systematically build on their learning by taking risks, becoming resourceful, innovative, enterprising and capable citizens.
- Children are immersed in age-appropriate creative and practical activities and taught the skills needed to engage in designing and making in all year groups to ensure that they have the subject-specific language skills required to communicate their understanding.
- The design and technology curriculum provides real-life opportunities to apply and deepen their skills and knowledge in the core curriculum subjects ensuring that they can understand the rationale behind learning in these areas.
- High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

KS1 children 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].
- how to cook and apply the principles of nutrition and healthy eating.

KS2 children should be taught:

- 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].

KS1	KS2
<u>Design</u> • 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.	<u>Design</u> • 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 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
- Compare two products and discuss which is better for a specific purpose.
- Say what they like about their peers' designs and products.
- Accept feedback and understanding it is meant to improve their work.

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.

Food and nutrition

- Use the basic principles of a healthy and varied diet to prepare dishes.
- Understand where food comes from.

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.
- Suggest points for modification of the individual designs.
- 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.

Food 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.
- Work safely and hygienically with independence.

	• Follow a recipe, including using the correct quantities of each ingredient. • Write a recipe, explaining the key steps, method and ingredients. • Conduct market research. • Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
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