

Excalibur Design and Technology Curriculum

Year 3

Design and Technology Intent Year 3

Using creativity and imagination, pupils 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 draw on disciplines such as mathematics, science, engineering, 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.

Design and Technology Implementation Year 3

Skills

Pupils will be taught to use the following practical methods and skills:

Developing, Planning and Communicating Ideas

- Generate ideas for an item, considering its purpose and the user/s
- Identify a purpose and establish criteria for a successful product.
- Plan the order of their work before starting
- Explore, develop and communicate design proposals by modelling ideas
- Make drawings with labels when designing

Working with tools, equipment, materials and components to make quality products (Inc food)

- Select tools and techniques for making their product
- Think about their ideas as they make progress and be willing change things if this helps them improve their work
- Measure, mark out, cut, score and assemble components with more accuracy
- Work safely and accurately with a range of simple tools
- Demonstrate hygienic food preparation and storage
- Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT

Evaluating processes and Products

Knowledge

The children will learn about:

Mechanical Systems

Focus: Leavers and Linkages

Project: Information Poster on the Roman Era

- I can use my knowledge of existing products to design my own functional product.
- I can create designs using annotated sketches, cross sectional diagrams and simple computer programs.
- I can safely measure, mark out, cut, assemble and join with some accuracy.
- I can make suitable choices from a wider range of tools and unfamiliar materials and plan out the main stages of using them.
- I can investigate and analyse existing products and those that I have made, considering a wide range of factors.
- I can strengthen frames with diagonal struts.
- I can understand how mechanical systems such as levers and linkages or pneumatic systems create movement

Structures

Focus: Shell Structures using Computer Aided Design

Project: Chocolate Boxes

- I can use my knowledge of existing products to design a functional and appealing product for a particular purpose and audience.
- I can create designs using exploded diagrams.
- I can use techniques which require more accuracy to cut, shape, join and finish my work eg cutting internal shapes, slots.
- I can use my knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them.

<ul style="list-style-type: none"> Evaluate their product against original design criteria e.g. how well it meets its intended purpose Disassemble and evaluate familiar products 	<ul style="list-style-type: none"> I can consider how existing products and my own finished products might be improved and how well they meet the needs of the intended user. I can apply techniques I have learnt to strengthen structures and explore my own ideas. I can understand and use electrical systems in my products <p>Food Focus: Healthy and Varied Diet Project: Healthy Pizza Pitta Snacks</p> <ul style="list-style-type: none"> I can talk about the different food groups and name food from each group. I understand that food has to be grown, farmed or caught in Europe and the wider world. I can use a wide variety of ingredients and techniques to prepare and combine ingredients safely.
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Design and Technology Vocabulary Year 3

Structures <i>Shell Structures using Computer Aided Design</i>	Mechanical Systems <i>Levers and Linkages</i>	Food <i>Healthy and Varied Diet</i>
Assemble, prism, vertex, breadth, capacity, scoring, adhesives, reduce, reuse, recycle, corrugating, ribbing, laminating	Loose pivot, fixed pivot, system, input, process, output, linear, rotary, reciprocating, innovative, appealing, linkage, oscillating	Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested