

Excalibur Design and Technology Curriculum

Year 4

Design and Technology Intent Year 4

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 4

Skills	Knowledge
<p>Pupils will be taught to use the following practical methods and skills:</p> <p><u>Developing, Planning and Communicating Ideas</u></p> <ul style="list-style-type: none"> • Generate ideas, considering the purposes for which they are designing • Make labelled drawings from different views showing specific features • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail • Evaluate products and identify criteria that can be used for their own designs <p><u>Working with tools, equipment, materials and components to make quality products (Inc food)</u></p> <ul style="list-style-type: none"> • Select appropriate tools and techniques for making their product • Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques • Use simple graphical communication techniques • Join and combine materials and components accurately in temporary and permanent ways • Measure, tape or pin, cut and join fabric with some accuracy • Sew using a range of different stitches, weave and knit 	<p>The children will learn about:</p> <p><u>Food</u></p> <p>Focus: Healthy and Varied Diet</p> <p>Project: Information Healthy Granola Bar</p> <ul style="list-style-type: none"> • I understand what makes a healthy and balanced diet and that different food and drink provide different substances the body needs to be healthy and active. • I understand seasonality and the advantages of eating seasonal and locally produced food. • I can read and follow recipes which involve several processes, skills and techniques. <p><u>Textiles</u></p> <p>Focus: 2D Shape to 3D Product</p> <p>Project: Purse/Wallet</p> <ul style="list-style-type: none"> • 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. <p><u>Electrical Systems</u></p> <p>Focus: Simple Circuits and Switches</p> <p>Project: Working Lantern</p>

<p><u>Evaluating processes and Products</u></p> <ul style="list-style-type: none"> Evaluate their work both during and at the end of the assignment Evaluate their products carrying out appropriate tests 	<ul style="list-style-type: none"> 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. 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.
--	---

Design and Technology Vocabulary Year 4

Textiles 2D Shape to 3D Product	Food Healthy and Varied Diet	Electrical Systems Simple Circuits and Switches
Fastening, compartment, zip, finishing technique, function, prototype, back stitch, felted, woven, knitted, bonded	Texture, taste, appearance, preference, greasy, moist, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested	Series circuit, connection, push-to-make switch, push-to-break switch, innovative, appealing, control box, input device, output device, system