

DESIGN AND TECHNOLOGY AT ALBAN CITY SCHOOL

At Alban City School, our Design and Technology curriculum provides pupils with the opportunity to use a range of tools and materials and explore three main concepts: design, make and evaluate. Our aim is for the children to develop skills which they will use throughout their lives.

During the design stage, the children will begin to develop their technical language, explore existing products and their designers, as well as consider the views of a target audience. From this, they will create annotated drawings, labelling specific features of their design (including cross-sections in Years 5 and 6), supported by research. In addition, children will explore how well products have been designed and made to establish a success criteria for their own product.

Children will then construct their designs using a range of different materials and tools. They will identify materials which work well together and complete their products using a range of finishing techniques, recognising how to make 3D structures more stable. Designs will become more complex through the inclusion of electrical and mechanical aspects.

The purpose of the evaluation stage is to provide children with an opportunity to evaluate their final product against their original design. Children will begin to develop the confidence to identify changes they could make through critical evaluation, as well as considering the views of others. By the time children leave Alban City School, they will have compared their products with existing products on the market.

One aspect of our Design and Technology curriculum is centred around food and nutrition and we are fortunate enough to have our very own Food Technology room. Throughout their time at Alban City School, children will develop a range of different skills to use various equipment found in the kitchen safely. During Key Stage 1, pupils will have the opportunity to make individual items of food, before progressing onto making full meals, for example an omelette or curry when in Key Stage 2. This will involve following a recipe, taking accurate measurements and scaling where appropriate. Alongside this, the children explore the concepts of healthy and unhealthy food and their nutritional value, exploring food labelling and developing an understanding of where our food comes from.

Food and Nutrition

	Reception Biscuits	Year 1 Fruit	Year 2 Bread	Year 3 Healthy sandwich	Year 4 Omelette	Year 5 Savoury muffin	Year 6 Curry
Skills	Roll Cut Shape	Crush Peel Cut Thread Juice	Measure Spoon Mix Stir Knead Grate Sift	Cut Slice Grate Spread Snip	Cut Whisk Measure Heat Peel	Measure Spoon Grate Juice Mix Stir Heat	Cut Measure Heat Peel Stir
Equipment	Rolling pin Cutter Fork	Potato mash, folk Peeler Knife Kebab sticks Juicer	Measuring spoons Bowl and spoon Sieve Grater	Knife Grater Knife Scissors	Knife Whisk Scales Hob, Pan, spatula Peeler	Scales Measuring spoons Zesting and grating Juicer Spoon Oven	Knife Scales Hob, saucepan Peeler Spoon
Knowledge	Hygiene- Understand the importance of washing hands before touching food. Identify foods which are healthy and unhealthy.	Hygiene- Understand the importance of washing hands before touching food. Begin to understand that everyone should eat at least five portions of fruit and vegetables every day. Understand that some foods are healthy and some foods are unhealthy, and to name some.	Hygiene- Understand the importance of washing hands before touching food Begin to understand that everyone should eat at least five portions of fruit and vegetables every day. <i>Keep a diary of fruit and vegetables eaten in one week.</i> Understand and sort foods into 'The Eat Well plate'. Understand that bread is a carbohydrate. Start	Hygiene- Hand washing, hair tied back, jewellery, nail varnish Start to know that food is grown, reared and caught across the world. Understand and sort these foods into 'The Eat Well plate'. Start to know when, where and how food is grown (such as herbs, tomatoes and strawberries) in the UK, Europe and the wider world	Hygiene- Hand washing including cross contamination, hair tied back, jewellery, nail varnish. Heat safety- Understand the dangers with using heat in the kitchen. Use a heat source with supervision. Name foods which are grown, reared or caught from around the world. Measure and weigh ingredients to the	Hygiene- Hand washing including cross contamination, hair tied back, jewellery, nail varnish. Heat safety- safely use heat in the kitchen. Use a heat source with supervision. Start to know that seasons may affect food availability. Food labelling- Identify and understand food labelling- nutritional	Hygiene- Hand washing, hair tied back, jewellery, nail varnish. Use boiling to cook foods including vegetables, eggs, rice and potato. Use a heat source with supervision. Know that seasons affect food availability. Food labelling- Use food labelling to inform food choices. Know different food and drink contain

		<p>Understand that fruit and vegetables come from plants.</p>	<p>to understand how to name and sort foods into the five groups in 'The Eat Well Plate'.</p> <p>Understand that food comes from plants and animals.</p> <p>Start to know that food is grown, reared and caught across the world.</p>	<p>Start to understand that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat Well Plate'.</p> <p>Begin to know that to be active and healthy, food and drink are needed to provide energy for the body.</p>	<p>nearest gram and millilitre.</p> <p>With support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob.</p> <p>Start to independently follow a recipe.</p>	<p>information (sugar, carbohydrates, salt, fat)</p> <p>Independently follow a recipe.</p> <p>Adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, texture and aroma.</p>	<p>different substances – nutrients, water and fibre – that are needed for health.</p> <p>Understand that food is processed into ingredients that can be eaten or used in cooking.</p> <p>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</p>
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Design

<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p>	<p>Make simple plans for a project using drawing and writing.</p> <p>Plan a product for a purpose.</p> <p>Understand and follow simple design criteria.</p> <p>Work in a range of relevant contexts, for example imaginary, story-based, home, school and the wider environment.</p>	<p>Begin to develop their design ideas through discussion, observation, drawing and modelling.</p> <p>Understand how to identify a target group for what they intend to design and make based on a design criteria.</p> <p>Explain how their products will look and work through talking and simple annotated drawings.</p>	<p>Start to understand that mechanical systems such as levers and linkages or pneumatic systems create movement.</p> <p>Understand how well products have been designed, made, what materials have been used and the construction technique.</p> <p>Identify a purpose and establish criteria</p>	<p>Start to generate ideas, considering the purposes for which they are designing- link with Mathematics and Science.</p> <p>Confidently make labelled drawings from different views showing specific features.</p> <p>Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and</p>	<p>Start to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces.</p> <p>Begin to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p>	<p>Use research to inform and develop detailed design criteria to inform the design of innovative, functional and appealing products that are fit for purpose and aimed at a target market.</p> <p>Use their knowledge of a broad range of existing products to help generate their ideas.</p> <p>Explain how particular parts of their products work.</p>
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			Plan and test ideas using templates and mock-ups.	for a successful product. Know to make drawings with labels when designing. When planning explain their choice of materials and components including function and aesthetics.	suggesting alternative methods of making, if the first attempts fail. Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground -breaking products. Use computer-aided design to develop and communicate their ideas.	Use their knowledge of a broad range of existing products to help generate their ideas.	Use annotated sketches, cross-sectional drawings and exploded diagrams (possibly including computer-aided design) to develop and communicate their ideas. Consider the availability and costings of resources when planning out designs.
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Make

Use a range of small tools, including scissors and paint brushes Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	Fold and manipulate card and paper. Understand how to keep safe when using scissors. Begin to use scissors to cut a variety of materials. Use materials to join including glue, sellotape and masking tape. Use simple templates to draw	Use sharp tools carefully. Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. With help measure, mark out, cut and shape a range of materials.	With support use craft knives to score card. Use a range of joining techniques including tabs, triangles and Make choices about which glue to use Eg PVA, Pritt stick, sellotape, masking tape. Use simple running stitch to add detail and embellishments.	Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT. Understand how to reinforce and strengthen a 3D framework. Know how simple electrical circuits and components can be	Begin to use woodwork tools to cut and shape. Know how mechanical systems such as cams or pulleys or gears create movement. Understand that mechanical and electrical systems have an input, process and output.	Independently take exact measurements and mark out, to within 1 millimetre Use a full range of materials and components, including construction materials and kits, textiles, and mechanical components Cut a range of materials with
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		around and cut shapes from materials.	Begin to use simple finishing techniques to improve the appearance of their product, such as adding simple decorations.		used to create functional products. With growing independence, measure and mark out to the nearest cm and millimetre.		precision and accuracy Shape and score materials with precision and accuracy. Learn to use a range of tools and equipment safely and appropriately.
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Evaluate

	Share their creations, explaining the process they have used	Start to evaluate their product by discussing how well it works in relation to the purpose. When looking at existing products explain what they like and dislike about products and why.	Evaluate their work against their design criteria. Start to evaluate their products as they are developed, identifying strengths and possible changes they might make.	Start to evaluate their product against original design criteria e.g. how well it meets its intended purpose. Begin to disassemble and evaluate familiar products and consider the views of others to improve them.	Evaluate their products carrying out appropriate tests. Start to evaluate their work both during and at the end of the assignment. Be able to disassemble and evaluate familiar products and consider the views of others to improve them.	Evaluate their work both during and at the end of the assignment. Begin to evaluate it personally and seek evaluation from others.	Complete detailed competitor analysis of other products on the market. Evaluate their ideas and products against the original design criteria, making changes as needed.
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