

Design and Technology at Belswains Primary School

At Belswains Primary School, the teachers follow the planning of Curriculum Maestro. They adapt the plans and resources to enhance the children's learning and teach projects that cover a variety of skills. These projects sometimes link to History, Geography or Science projects.

<https://maestro.cornerstoneseducation.co.uk/dashboard>

The Design and Technology curriculum is based on the National Curriculum, with the purpose to move forward children's learning and develop their skills.

The principles go beyond the academic and reflect children's intellectual and personal development, needs and capabilities, both now and in the future.

Intent	Implementation	Impact
<p>At Belswains Primary School, Design and Technology offers a coherently planned sequence of lessons through Curriculum Maestro, helping teachers and ensuring they have progressively covered the knowledge, understanding and skills required in the National Curriculum.</p> <p>Design and Technology aims to inspire children through a broad range of practical experiences to create innovative designs which solve real and relevant problems within a variety of different contexts.</p> <p>The engage and develop processes encourage children to</p>	<p>At Belswains Primary School, Design and Technology skills and understanding are built into lessons, following the engage and develop processes. Whenever it is needed, the teachers use their own professional judgement to revisit ideas and skills, helping to build depth in children's understanding.</p> <p>Through revisiting and consolidating skills, the lesson plans and resources help children build on prior knowledge alongside introducing new skills, knowledge and challenge. The revision and introduction of key vocabulary is built into each lesson.</p> <p>Through these lessons, we intend to inspire pupils and practitioners to develop a love of Design and Technology and see how it has helped shape the ever-evolving technological world they live in.</p> <p>Early Years Foundation Stage:</p> <p>Teaching in the Early Years Foundation Stage is underpinned by the Characteristics of Effective Learning.</p>	<p>At Belswains Primary School, we aim to make the technical vocabulary used by children across the school consistent.</p> <p>Whole-school and parental engagement has improved through the use of design and technology opportunities suggested in lessons and overviews for wider learning. For example, during the French week as a cross curricula link, parents and carers helped their children to build a 3D Eiffel Tower using different materials (e.g. lollipop sticks, marshmallows, cardboard, wires).</p> <p>There were children who, as a result of cooking in the classroom under</p>

<p>identify real and relevant problems, evaluate existing products and then take risks through the innovate process, when designing their own product and creating solutions to the problems. As part of the express process, children have the opportunity to reflect, evaluate and improve on prototypes, showing the real impact of design and technology on the wider environment and helping to inspire children to become the next generation of innovators. Through pupil voice and meetings, children say what they like and dislike about their learning, take part in age-appropriate discussions and express their opinions on a range of different topics and issues.</p>	<p>Key Stage 1:</p> <p>Design Pupils are taught to:</p> <ul style="list-style-type: none"> - 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. <p>Make Pupils are taught to:</p> <ul style="list-style-type: none"> - 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. <p>Evaluate Pupils are taught to:</p> <ul style="list-style-type: none"> - explore and evaluate a range of existing products. - evaluate their ideas and products against design criteria. <p>Technical Knowledge Pupils are taught to:</p> <ul style="list-style-type: none"> - build structures, exploring how they can be made stronger, stiffer and more stable. - explore and use mechanisms (for example, levers, sliders, wheels and axels), in their products. <p>Cooking and Nutrition Pupils are taught to:</p> <ul style="list-style-type: none"> - use the basic principles of a healthy and varied diet to prepare dishes. - understand where food comes from. 	<p>adult supervision, helped mum to prepare the ingredients for dinner. Also, one child from Year 1, as a result of designing and making a shelter, went home and helped his dad to build a tree house.</p> <p>Impact can also be measured through questioning built into lessons, child-led assessment (product evaluation) and responding to marking (next steps). Through high quality first wave teaching, guidance and effective feedback, most of the children achieve age-related expectations by the end of each year group. By the end of Key Stage 2, children will leave our school prepared for the next step in their education.</p>
	<p>Key Stage 2: Teaching throughout Key Stage 2 builds on the solid foundations of the previous key stage.</p> <p>Design Pupils are taught to:</p> <ul style="list-style-type: none"> - 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. <p>Make Pupils are taught to:</p> <ul style="list-style-type: none"> - 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. <p>Evaluate Pupils are taught to:</p> <ul style="list-style-type: none"> - 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. <p>Technical Knowledge Pupils are taught to:</p> <ul style="list-style-type: none"> - 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). 	<p>Summative assessment takes place at the end of the summer term and the children's progress and attainment is discussed with senior leaders in pupil progress meetings. Formative assessment takes place on a weekly basis and teachers adjust planning accordingly to meet the needs of their class.</p>

	<ul style="list-style-type: none"> - 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. <p>Cooking and Nutrition</p> <p>Pupils are taught to:</p> <ul style="list-style-type: none"> -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. 	
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Curriculum at Belswains Primary School

Our curriculum gives children the opportunity to see clear links between different aspects of their learning. We encourage the children to understand the purpose and value of their learning and see its relevance to their past, present and future. This occurs in an environment where every child, regardless of their background, belief, race or gender, is able to develop and demonstrate their creativity by attempting to master new skills through a variety of interesting contexts. Furthermore, the children develop a rich and deep subject knowledge through the achievable but challenging projects, while learning within a coherent and progressive framework.

The children's wellbeing is a fundamental principle that every adult in our school is committed to. Every lesson is planned in a manner which develops every child's self-esteem and confidence in their abilities. Lessons also help children learn to be themselves and enable children to learn how to respect others by recognising that people are good at different things.

	Autumn	Spring	Summer
Nursery	<p>Me and My Community: Children create vehicles with wheels and axels.</p> <p>Once Upon a Time: Children create structures using different materials and techniques.</p>	<p>Starry Night: Children make cuddly pets using textiles.</p> <p>Winter Wonderland: Children make bird food cakes.</p> <p>Dangerous Dinosaurs: Children create footsteps fossils.</p>	<p>Sunshine and Sunflowers: This seasonal project provides opportunities for outdoor learning and teaches children how to care for the plants and animals in their local environment and how to stay safe in the sun. <u>To make:</u> children to make and evaluate sun hats using different materials.</p>
Reception	<p>Let's Explore: This project teaches children about structures and materials and gives them the opportunity to work in groups to create collaborative structures.</p>	<p>Long Ago: This project teaches children about how they have grown and changed since they were babies and how life in the past was different from today.</p>	<p>Animal Safari: This project teaches children about the animals that live around the world, how to look after animals and the importance of caring for our local and global environments.</p>

	<p><u>To make:</u> children to use different resources (wooden blocks, lolly sticks, crates and planks) to create houses, bridges, cars or other structures.</p> <p>Marvellous Machines: This interest-led project teaches children about the technology that is part of their daily lives and how machines help us. <u>To make:</u> children to build and create machines.</p>	<p><u>To make:</u> children will have DT opportunities during child-initiated learning.</p> <p>Ready Steady Grow: This project teaches children about food and farming and explores themes, including where food comes from, what plants and animals need to grow and survive and what constitutes a healthy lifestyle. <u>To make:</u> children will have DT opportunities during child-initiated learning.</p> <p>Puppets and Pop-ups: This project teaches children about puppets and pop-up books and gives children the opportunity to make puppets and use them to tell exciting stories. <u>To make:</u> children to make pop-up books as well as design and make hand puppets.</p>	<p><u>To make:</u> children to make animal skin patterns using various resources to print with, such as corks, Lego bricks, bubble wrap, shaped sponges and thick corrugated card.</p> <p>On the Beach: This project teaches children about the plants and animals that live at the seaside. It also explores holidays in the past and the importance of keeping safe in the sun. <u>To make:</u> children to make seed shaker percussion instruments.</p>
Year 1	<p>Shade and Shelter: This project teaches children about the purpose of shelters and their materials. They name and describe shelters and design and make shelter prototypes. <u>To make:</u> children to design, build and evaluate a play den as a group.</p>	<p>Taxi: This project teaches children about wheels, axles and chassis and how they work together to make a vehicle move. <u>To make:</u> children to make, decorate and evaluate their London taxis.</p>	<p>Chop, Slice and Mash: This project teaches children about sources of food and the preparatory skills of peeling, tearing, slicing, chopping, mashing and grating. <u>To make:</u> children to design and make a sandwich.</p>
Year 2	<p>Remarkable recipes: This project teaches children about sources of food and tools used for food preparation. They also discover why some foods are cooked and learn to read a simple recipe. <u>To make:</u> children make a dish by following a recipe.</p>	<p>Beach Hut: This project teaches children about making and strengthening structures, including different ways of joining materials. <u>To make:</u> children to design, make and evaluate a beach hut.</p>	<p>Push and Pull: This project teaches children about three types of mechanism: sliders, levers and linkages. They make models of each mechanism. <u>To make:</u> children to design, make and evaluate a greeting card with a moving part.</p>
Year 3	<p>Cook well, Eatwell: This project teaches children about food groups and the Eatwell guide. They learn about methods of cooking. <u>To make:</u> children to cook and evaluate tacos.</p>	<p>Making it Move: This project teaches children about cam mechanisms. They experiment with different shaped cams. <u>To make:</u> children to design, make and evaluate a child's automaton toy.</p>	<p>Greenhouse: This project teaches children about the purpose, structure and design features of greenhouses, and compares the work of two significant greenhouse designers. They learn techniques to strengthen structures and use tools safely. <u>To make:</u> Children to design, construct and evaluate a mini greenhouse.</p>

<p>Year 4</p>	<p>Fresh Food, Good Food: This project teaches children about food decay and preservation. They discover key inventions in food preservation and packaging, then make examples. <u>To make:</u> children prepare, package and evaluate a healthy snack.</p>	<p>Functional and Fancy Fabrics: This project teaches children about home furnishings and the significant designer William Morris. They learn techniques for decorating fabric, including block printing, hemming and embroidery. <u>To make:</u> children to design, make and evaluate a fabric sample with a purpose.</p>	<p>Tomb Builders: This project teaches children about simple machines, including wheels, axles, inclined planes, pulleys and levers, exploring how they helped ancient builders to lift and move heavy loads. <u>To make:</u> children to make, design and evaluate simple machines to help ancient Egyptian tomb builders move and lift heavy stones more easily to make the pyramids.</p>
<p>Year 5</p>	<p>Moving Mechanisms: This project teaches children about pneumatic systems. They experiment with pneumatics. <u>To make:</u> children to design, make and evaluate a pneumatic machine that performs a useful function.</p>	<p>Eat the Seasons: This project teaches children about the meaning and benefits of seasonal eating, including food preparation and cooking techniques. <u>To make:</u> children to design, make and evaluate a healthy, seasonal soup for four people, using some of the ingredients and techniques they have explored in previous sessions.</p>	<p>Architecture: This project teaches children about how architectural style and technology have developed over time. <u>To make:</u> children to design, make and evaluate a building with specific features.</p>
<p>Year 6</p>	<p>Food for Life: This project teaches children about processed food and healthy food choices. <u>To make:</u> children to make bread and pasta sauces and learn about the benefits of whole foods. They plan and make meals as part of a healthy daily menu, and evaluate their completed products.</p>	<p>Engineer: This project teaches children about remarkable engineers and significant bridges, learning to identify features, such as beams, arches and trusses. <u>To make:</u> children to complete a bridge-building engineering challenge to create a bridge prototype. They evaluate the prototype.</p>	<p>Make Do and Mend: This project teaches children a range of simple sewing stitches, including ways of recycling and repurposing old clothes and materials. <u>To make:</u> children to mend and stitch a chosen pattern, using pinning with dressmaker pins and tacking with quick, temporary stitches to hold fabric together in preparation for and during sewing.</p>