St Buryan Academy Primary School
Believe, Achieve, Aspire

St Buryan Academy Coverage and Progression – Concept Map

Design Technology

What the National Curriculum says…

Key Stage 1	Key Stage 2
Pupils should be taught: **Design** -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 **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 **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 **Cooking and nutrition** -use the basic principles of a healthy and varied diet to prepare dishes -understand where food comes from	**Pupils should be taught to:** **Design** -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 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 -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 **Cooking 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 -understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed

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We believe in giving the children the opportunities and experiences to develop their knowledge and skills in designing, making, evaluating their work and deepening their awareness of cooking and nutrition, as well as building their technological knowledge around those concepts.
Design Technology is often taught as a theme, tying in with each class' current learning context. When this isn't possible it may link to the time of the year, an event – locally or globally, or from a teacher's own judgement in order to progress children's skills and knowledge.
Our coverage is inspired by our Key Concepts, which indicate clear progression between classes and year groups as well as being held together by our over-arching concepts: Creativity, Confidence, Collaboration and Independence.
As well as using real designers and designs as inspirations and aspirations, we look to celebrate diversity and culture through design; we aim to develop an expansion of vocabulary by using subject –specific terminology to enhance their work.
We aspire to produce pupils who are proud of their outcomes and strive for high-quality finished pieces of work.
Our key concepts ensure progression through the year groups, carefully designed to build knowledge and understanding. The selection of skills, coming from the National Curriculum as a starting point, ensure that learning is built on year-on-year. An adaptive teaching approach is used to ensure progression across our mixed-age classes.

Excellence – Equity – Evolution – Believe – Achieve – Aspire

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Key Concept	EYFS/Year 1	Year 2/3	Year 4/5/6
	-To discuss the work of some recognised designers that have been studied	-To discuss the work of some recognised designers that have been studied -Disassemble designs to discover how they work and discuss	-Use or combine designs from significant designer and explain choices -Evaluate the design of products and identify possible further changes to improve its performance -To discuss the work of some recognised designers that have been studied
	-To understand instructions in order to carry out an activity safely -To understand any potential risks and how we can minimise these	-To understand instructions in order to carry out an activity safely -To understand any potential risks and how we can minimise these	-To understand instructions in order to carry out an activity safely -To understand any potential risks and how we can minimise these
	-I can discuss why different materials may be used -I can reason with decisions made to make something	-Comment on their own and others' designs and products. Suggest ways in which designs and products could be improved -Take an existing design and propose improvements	-Refine methods and their design as work progresses, constantly reassessing and adapting design -Make improvements to established designs and be able to explain / justify

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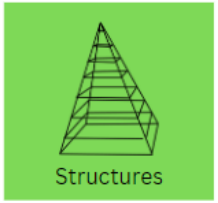
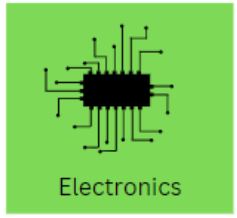
	-I can select materials on their suitability for a project -Make use of a template to produce shapes -Use a range of joining techniques: e.g. gluing, hinges or combining materials to strengthen	-Use a range of tools safely and with some control -Select materials carefully to suit the design and use -Use suitable cutting and shaping technique	-Choose suitable joining techniques -Cut with precision and produce a good finish -Select appropriate tools to cut and shape a particular type of material
 	-I can design and build structures for a topic -Practice techniques to join and / or strengthen materials: e.g. gluing and reinforcing card	-Design and make products that have a definite function -Design and make products, modifying the product as the project evolves. (e.g. puppet / moving pop-up picture) -Explore the processes used to create products, and use this to inspire their own simple plans -Select appropriate techniques to construct products	-Produce designs with a clear purpose, having explored needs -Design by considering the user, prioritising good function -Produce prototypes, building upon the previous, to optimise design -Gain competence at a range of practical skills to a reasonable standard to produce products -Include designing processes such as

			prototypes, cross-sectional diagrams and / or CAD -Show attention to achieving a good quality finish to their products (link to art techniques)
		-Use computer packages to design and model products -Construct series and parallel circuits	-Create circuits using electronics kits that combine a number of parts (e.g. LEDs, resistors, chips etc)
	-I can understand the importance of food hygiene -I can identify whether or not simple foods are healthy or unhealthy and the impact they have on our bodies -Develop basic skills such as stirring, kneading and pouring	-Understand the importance of food hygiene and steps to take (e.g. washing hands, cleaning table) -Understand where different foods come from -Safely cut, peel or grate ingredients in a hygienic manner (e.g. fruit salad) -Combine ingredients to produce a dish, with support, by using basic	-Use correct utensils to hygienically prepare food -Understand how to store and handle food ingredients properly -Invent and modify own recipes including ingredients, methods, cooking times and temperatures

		techniques such as stirring / mixing / whisking / kneading / rubbing -Combine and /or cook ingredients with some independence	
	-Explore and use mechanisms in their products: e.g. wheels and axles / sliders etc.	-Apply understanding of forces to select a suitable mechanism for their design: e.g. levers, winding mechanism, pulleys or gears	-Combine electronics and mechanics to produce original designs -Use cams to change a rotation into a push/pull movement
	-Use simple sewing techniques -Use methods such as dyeing, adding sequins or printing to alter the appearance of fabric	-Understand basic sewing techniques, including running stitch and blanket stitch -Use methods such as dyeing, adding sequins or printing to alter the appearance of fabric -Use correct stitch to join materials	-Add decorative finish using a suitable technique -Use a variety of stitching techniques to join fabrics -Use a pattern, measure accurately and allow for seams