Celebrating learning together in faith, hope and love

DESIGN AND TECHNOLOGY CURRICULUM PROGRESSION

Curriculum intent:

At Bishop Perrin we believe that design and technology helps to prepare children for the developing world and encourages them to become curious and creative problem-solvers, both as individuals and as part of a team. We provide opportunities for children to work in a range of relevant contexts, reflecting the real world. We seek to develop children's ability to investigate, analyse and evaluate a range of products, applying their understanding and technical knowledge across a range of products and materials. Wherever possible we link work to other subjects such as maths, science, computing and art.

Design and Technology

Purpose: Design and technology is an inspiring, rigorous and practical subject. 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.

EYFS

Expressive Arts and Design - Creating with Materials ELG (proposed reforms)

- Draw and paint using a range of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

Expressive Arts and Design – Using and Manipulating Media (current)

- Use simple tools and techniques competently and appropriately
- Selects appropriate resources and adapts work where necessary
- Selects tools and techniques needed to shape, assemble and join materials they are using
- Manipulate materials to achieve a planned effect

Reception	Ourselves and Our Families	Repeating Rhythms and Patterns	Traditional tales	Monsters and Aliens	Space	Christmas	Winter, Snow, Ice and Dark Nights	Chinese New Year and Dragons	Food	People Who Help Us	Superheroes	Life Cycles	On the Farm	Dinosaurs	Around the World
Key cooking skills	• Cracking eggs • Decorating – spreading and sprinkling • Using a sieve • Greasing and lining tins	• Cutting shapes – freehand • Cutting and slicing soft fruit and vegetables	• Buttering a slice of bread	• Kneading • Rolling • Cutting out shapes – cutters • Grating cheese	• Cutting and slicing soft fruit and vegetables • Greasing and lining tins • Rolling •	• Kneading • Rolling • Cutting out shapes – cutters • Using a sieve • Rubbing in	• Cutting and slicing soft fruit and vegetables • Crushing biscuits • Peeling vegetables with a peeler	• Cutting and slicing soft fruit and vegetables • Crushing garlic	• Mixing • Sieving • Cutting using a cutter • Cutting and slicing with a knife • Spreading butter	• Mashing bananas • Mixing ingredients • Suggesting complementary flavour combinations	• Mashing fruit • Mixing • Mashing potatoes	• Cracking an egg • Mixing	• Kneading • Rolling • Sieving	• Rolling • Cutting using a cutter • Mixing • Dissolving • Boiling water	• Kneading • Sieving • Rolling • Turning • Mashing fruit • Mixing • Crushing garlic
Cooking outcomes	• Birthday cupcakes	• Fruit and vegetable kebabs	• Toast and butter • Porridge - hob	• Salt dough • Pizzas	• Dried fruit and long-life foods • Rice dishes • Flapjacks	• Shortcrust pastry – mince pies • Christingles • Iced biscuits	• Vegetable soup • Party food • Vegetable skewers	• Stir-fry • Rice paper wraps • Chow mein	• Pancakes • Gingerbread biscuits • Sandwiches	• Banana bread – cinnamon, nutmeg, chocolate, blueberries etc	• Healthy snacks • Fruit smoothies • Potato cakes	• Cooking with eggs – omelette • Milkshake	• Bread • Cooking with eggs - scrambled	• Dinosaur footprint biscuits • Jurassic jelly fossils	• Ice cream • Pasta • Garlic bread
Key woodwork skills	• Hammering • Picking up and sorting nails • using a vice	• Sanding • Using a screwdriver • Hammering	• Using a screwdriver • Unscrewing • Using a spanner and bolts	• Using pliers • Drilling	• Making a 'carpenters' mark' with a pencil	• Tightening and loosening nuts and bolts	• Measuring • Corner fixings • Sawing	• Gluing • Attaching string, thread, bottle tops etc	• Selecting appropriate types of wood	• Using a screwdriver • Drilling to a specific depth	• Screwing and unscrewing • Measuring • Drilling	• Hammering • Using nails • Following a plan • Measuring	• Following a plan • Measuring • Evaluating	• Making a plan • Measuring • Sawing • Drilling	• Screwing and unscrewing • Measuring • Drilling • Evaluating
Woodwork outcomes	• Geoboards • Doll house props • Train track fixings • Photo frame	• Instruments – drums, rattles drums and drumsticks etc • Patterns with nails and screws	• Windmill • Bolted structures • Bridges	• Robots and monsters • Go-cart • Cars	• Rockets and spaceships	• Props for Nativity – crib, fence	• Animal den • Animal cage / pen	• Dragons • Musical instruments	• Boats • Lunchbox	• Wheels – how things move • Traffic signs	• Friendship bench / signposts • Deconstructing electrical appliances	• Bug hotel • Bird feeders	• Scarecrows	• Dinosaur bones and skeleton	• Vehicles and transport including aeroplanes
Other key learning experiences	• Build model of home / familiar place	• Build a bears' den – fabric, matchsticks, lollipop sticks etc • Compare and sort clothing to wear in different weathers	• Build a bridge – blocks, Magformers • Build a house for the pigs • Build a new bed for Goldilocks	• Pumpkin monster • Junk modelling Monsters • Sock monsters	• Junk modelling – space junk and spacecraft • Construction – K-nex	• Build a bed for Baby Jesus / build the stable for the Nativity story • Make a sleigh for Santa and Harvey Slumfenburger • Printed wrapping paper • Christmas tree decorations	• Compare and sort materials for winter and summer clothes	• Sewing – dragon dance flags • Paper folding - Chinese lantern	• Paper folding – flap book • Design and make a recipe book – threading, stapling, folding	• Pop-up card – accordion • Junk modelling – design and make a recycling machine	• Sewing – superhero logo and cape • Junk modelling - design and make a superhero vehicle • Design and make a trap and superhero gadget • Textiles – pillowcase cape	• Paper folding – frog pop-up	• Construction – K-nex wheelbarrow and farm equipment • Junk modelling – design and make a farm machine	• Build a dinosaur skeleton • Build a volcano • Design and make a dinosaur fact book – sewing, gluing	• Paper folding – paper planes

KS1

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Design		Make		Evaluate		Technical knowledge		Cooking and nutrition	
Design purposeful, functional, appealing products for	Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where	Select from and use a range of tools and equipment to perform practical tasks [for example,	select from and use a wide range of materials and components, including construction materials, textiles and	explore and evaluate a range of existing products	evaluate their ideas and products against design criteria	build structures, exploring how they can be made stronger, stiffer and more stable	explore and use mechanisms [for example, levers, sliders, wheels and	use the basic principles of a healthy and varied diet to prepare dishes	understand where food comes from.

		themselves and other users based on design criteria	appropriate, information and communication technology	cutting, shaping, joining and finishing]	ingredients, according to their characteristics				axles], in their products.		
Year 1	***Me, Myself and I*** (Autumn 1) Fruit kebabs and Greek Salad	✓		slicing, peeling	ingredients	Fruit and vegetable tasting	✓			✓	Where fruit and vegetables come from
	A Knight's Tale (Spring 1) Model castle		Talking, drawing Mock up: make a model of a castle	Cutting, shaping, joining, finishing	Construction materials	Different types of castle and features of castle design		✓			
	Toy Story (Summer 1) Bicycles / toy cars	✓	Talking, drawing, templates	Cutting, joining, finishing	Constructions materials	Toy cars	✓		Wheels and axels		
Year 2	***It's a Small World*** (Autumn 1) Pop-up greetings cards	✓		Cutting, shaping, joining	Construction materials	Investigate: pop-up cards	✓		Levers, sliders		
	There's No Place Like Home – (Spring 1) Cushions	✓	Talking, drawing, mock-ups	Sewing, joining, stuffing, finishing	textiles	✓	✓				
	Chocolate (Summer 2) Packaging	✓	Talking, drawing, mock-ups, ICT	Cutting, scoring, folding, joining	Construction materials	Investigate: different types of chocolate bar packaging	✓	✓		✓	Where chocolate comes from

KS2														
Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].												As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.		
		Design		Make		Evaluate			Technical Knowledge			Cooking and nutrition		
		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	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	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	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]	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.
YEAR 3	***Rainforest Rescue*** (Autumn 1) Moving animals		Discussion, annotated sketches and prototypes	Cutting,	Construction materials	✓	Toy animals	?	✓	Linkages and levers				
	Food, Glorious Food! (Spring 1) Bread	Market research: bread types		Kneading, mixing, proving		Bread-tasting	✓	Famous baker?	✓			✓	Prepare	Where wheat comes from
	Rise of the Robots (summer 1) Robot with light-up eyes		Discussion, computer-aided design	Cutting, joining, finishing	Construction and electrical materials	Mechanical toys	✓	?	✓		✓			
YEAR 4	***India*** (Autumn 2) Indian-inspired recipes	Research: traditional Indian recipes		Slicing, spreading, chopping, grating, mixing	Ingredients	Food tasting	✓	Famous chef?!				✓	Cook	Where meat and fish come from
	Tudors in London (Spring 1) Tudor purses	Research: Tudor clothing design	Pattern pieces and proto-types	Cutting, shaping, sewing	Textiles	Wallets / purses	✓	?	✓					
	How Does Your Garden Grow? (Summer 1) Bird hide for the garden		Discussion, cross-sectional exploded diagram	Cutting, joining	Wood	Bird hides	✓	Bird watchers						

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YEAR 5	***Dragon's Den*** (Autumn 2) Recycling to Sell	✓	Computer-aided design	Cutting, joining, finishing	Construction materials	✓	✓				✓			
	What Did the Victorians Do For Us? (Spring 1) Alarming a vehicle	Research: development of car design	Discussion, cross-sectional exploded diagrams	Joining, finishing, connecting	Construction and electrical materials		✓	Thomas Parker – first electrical car		✓	*apply their understanding of computing to program, monitor and control their products*			
	Amazing Africa (Summer 2) African-inspired cooking		Discussion, annotated sketches	Cutting, mixing	ingredients		✓	✓				✓	✓	Where dairy comes from
YEAR 6	***Tales of the Thames*** (autumn 1) Bridges	✓	✓				✓	Isambard Kingdom Brunel	✓	Pulleys, levers				
	To Boldly Go (Spring 2) Clothing design	In-depth analysis of others work, visit from designer? Outdoor clothing brand rep?	Pattern pieces, prototypes			✓	✓	✓						
	Lights! Camera! Action! (Summer 1) Electronic - Fairground	✓			✓	✓	✓		✓		✓ *apply their understanding of computing to program, monitor and control their products*			