Design Technology Coverage

	Autumn	Spring	Summer	
Year 1	**Childhood: 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. Children then design and build a play den as a group and evaluate their completed product. 	**Bright Lights; Big City: Taxi** This project teaches children about wheels, axles and chassis and how they work together to make a vehicle move. 	**School Days: Chop, Slice and Mash** This project teaches children about sources of food and the preparatory skills of peeling, tearing, slicing, chopping, mashing and grating. They use this knowledge and techniques to design and make a supermarket sandwich according to specific design criteria. 	
	Designing and building a play den: ✓ 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. ✓ Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. ✓ 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. • Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	Making a London Taxi: ✓ 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. ✓ 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. ✓ 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 axles), in their products. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	✓ Designing and making a supermarket sandwich: ✓ 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. ✓ Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). ✓ Explore and evaluate a range of existing products. ✓ Evaluate their ideas and products against design criteria. ✓ Use the basic principles of a healthy and varied diet to prepare dishes. ✓ Understand where food comes from. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	
Year 2	**Movers and Shakers: 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. The children choose and make a new school meal that fulfils specific design criteria. 	**Coastline: Beach Hut** This project teaches children about making and strengthening structures, including different ways of joining materials. 	**Magnificent Monarchs: Cut, Stitch and Join** This project teaches children about fabric home products and the significant British brand Cath Kidston. They learn about sewing patterns and using a running stitch and embellishments before making a sewn bag tag. 	**Magnificent Monarchs: Push and Pull** This project teaches children about three types of mechanism: sliders, levers and linkages. They make models of each mechanism before designing and making a greetings card with a moving part. Machines and mechanisms; Sliders, levers and linkages; Designing and making greetings cards with moving parts. 
	Making a new school meal: ✓ 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. ✓ Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). ✓ Explore and evaluate a range of existing products. ✓ Evaluate their ideas and products against design criteria.	Making a beach hut ✓ 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. ✓ Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).	✓ Designing and making a bag tag: ✓ Design purposeful, functional, appealing products for themselves and other users based on design criteria ✓ Evaluate their ideas and products against design criteria.	✓ Designing and making a moving greetings card: ✓ Build structures, exploring how they can be made stronger, stiffer and more stable. ✓ Design purposeful, functional, appealing products for themselves and other users based on design criteria.

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	✓ Use the basic principles of a healthy and varied diet to prepare dishes. ✓ Understand where food comes from. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	✓ Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics. ✓ Evaluate their ideas and products against design criteria. ✓ Build structures, exploring how they can be made stronger, stiffer and more stable. • Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world	✓ Explore and evaluate a range of existing products. ✓ Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. ✓ 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 their ideas and products against design criteria. ✓ Explore and evaluate a range of existing products. ✓ Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products. ✓ Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology. ✓ 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. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world,
Year 3	**Through The Ages: Cook Well, Eat Well** This project teaches children about food groups and the Eatwell guide. They learn about methods of cooking and explore these by cooking potatoes and ratatouille. The children choose and make a taco filling according to specific design criteria. 	**Rocks, Relics and Rumbles: Making it Move** This project teaches children about cam mechanisms. They experiment with different shaped cams before designing, making and evaluating a child's automaton toy. 	**Emperors and Empires: 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. They use their learning to design and construct a mini greenhouse. 	
	Making taco fillings: ✓ 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. ✓ 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. ✓ Understand and apply the principles of a healthy and varied diet.	Designing and making automaton toys: ✓ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ✓ Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. ✓ Investigate and analyse a range of existing products. ✓ 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. ✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.	Planning and making a mini greenhouse: ✓ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. ✓ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ✓ • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. ✓ Investigate and analyse a range of existing products. ✓ 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.	

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	✓ 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. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	✓ Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages). ✓ 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.	✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ✓ Understand how key events and individuals in design and technology have helped shape the world. ✓ 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.
Year 4	**Invasion: 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. The children prepare, package and evaluate a healthy snack 	**Misty Mountain, Winding River: 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 and use them to design and make a fabric sample. 	**Ancient Civilizations: 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. 
	Designing, making and packaging healthy snacks: ✓ 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 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 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. ✓ Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.	✓ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ✓ Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. ✓ Investigate and analyse a range of existing products. ✓ 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. ✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ✓ Understand how key events and individuals in design and technology have helped shape the world ✓ 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.	Designing simple machines: ✓ 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 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 and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages).
Year 5	**Dynamic Dynasties: Moving Mechanisms** This project teaches children about pneumatic systems. They experiment with pneumatics before designing, making and evaluating a pneumatic machine that performs a useful function. 	**Sow, Grow and Farm: Eat The Seasons** This project teaches children about the meaning and benefits of seasonal eating, including food preparation and cooking techniques. 	**Ground breaking Greeks: Architecture** This project teaches children about how architectural style and technology has developed over time and then use this knowledge to design a building with specific features. 
	Designing and making a pneumatic prototype: ✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately.	Seasonal soups: ✓ 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.	Building design: ✓ 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.

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	✓ 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. ✓ 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). ✓ Critique, evaluate and test their ideas and products and the work of others.	✓ Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.	✓ 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.
Year 6	**Maafa: Food for Life** This project teaches children about processed food and healthy food choices. They 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. 	**Frozen Kingdoms: Engineer** This project teaches children about remarkable engineers and significant bridges, learning to identify features, such as beams, arches and trusses. They complete a bridge-building engineering challenge to create a bridge prototype. 	**Britain at War: Make Do and Mend** This project teaches children a range of simple sewing stitches, including ways of recycling and repurposing old clothes and materials. 
	Designing and making a healthy meal: ✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ✓ 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 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.	Designing and making a prototype bridge: ✓ Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. ✓ Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. ✓ Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. ✓ Investigate and analyse a range of existing products. ✓ 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. ✓ Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately. ✓ Understand how key events and individuals in design and technology have helped shape the world. ✓ 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.	Mrs Sew and Sew's challenge: ✓ 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.