INTENT

Design and Technology Curriculum Year B: Planning, Progress and Long-Term Knowledge Growth

YEAR 3/4	Substantive Design and Technology content	Recurring substantive themes, ideas and language (Key Concepts)	Subject rationale: Supporting pupils' wider design and technology curriculum journey	Basic disciplinary training in design and technology
Autumn Term	**Designing** Can 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. Is able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. **Making** Is able to select from and use a wider range of tools and equipment to make a sandwich and its packaging. Can accurately select from and use a wide range of materials and components, including construction materials and ingredients, according to their functional properties and aesthetic qualities. **Evaluating**	This unit on sandwiches and packaging allows children to explore and develop their understanding of the food industry. During this unit children will embed their understanding of key words such as - ingredient recipe product design evaluate equipment packaging nutrition healthy eating	This unit links with the year 3 and 4 science curriculum in understanding teeth, nutrition and healthy eating. This unit compliments Food Technology taught in KS1 where the children explore traditional foods in the UK, seasonal foods and healthy eating. Learning about bread in this unit will be used in UKS2 in their unit on micro-organisms and Egyptian bread. There is a strong link with PSHE - learning about health and hygiene This unit also links to PE and understanding how to fuel our body correctly in order for a better performance.	Skills Make labelled drawings. Develop and plan materials, equipment and processes, and suggest alternative methods of making, if the first attempts fail Evaluate products Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials.

	Is able to investigate and analyse a range of existing products. Children will look at a variety of shop bought sandwiches and their packaging. Can evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.			
	Technical Knowledge Applies their understanding of how to strengthen, stiffen and reinforce more complex structures.			
	Food technology Understand and can apply the principles of a healthy and varied diet. Can prepare a savoury dish using a understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.			
Spring Term	**Designing** Can 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.	Use research to inform the design criteria for a structure suitable to the context of a bridge. Use existing designs to inform own and communicate ideas through discussion and annotated sketches.	This follows on from KS1 where children have designed innovative, functional, appealing castles. Children will continue to develop prior skills of communicating their	Skills Generate ideas. Make labelled drawings. Develop and plan materials, equipment

	Is able to generate, develop, model and communicate their ideas through discussion and annotated sketches **Making** Is able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. **Evaluating** Is able to investigate and analyse a range of existing products. Can 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** Applies their understanding of how to strengthen, stiffen and	Compare designs and understand the necessary features of a suitable structure (considering locational aspects; indoor/outdoor, speed of accessibility, strength and space). To use understanding of how the shape of a structure can influence its strength and how their own structure can be strengthened by internal support and exterior reinforcement. Know how to use and manipulate materials in order to create a structure. To investigate the construction of existing structures and evaluate their own design against the design criteria. During this unit children will embed their understanding of key words such as - triangulation suspension bridge arch bridge structure beam bridge cantilever bridge strengthen	ideas through talking, drawing and template making. This unit links to further learning in UKS2 when the children will design and build their own wooden toys during their learning of the Victorian period.	and processes, and suggest alternative methods of making, if the first attempts fail Evaluate products Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials. Join and combine materials and components accurately in temporary and permanent ways

	reinforce more complex structures. Children have the opportunity to understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages].			
Summer Term	**Designing** Can 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. Is able to generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams. **Making** Is able to select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Can accurately select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.	This unit allows children to research different types of Roman catapults and then apply their learning into making their own catapult. Children will explore a range of materials to investigate which materials are more successful in propelling a missile. During this unit children will embed their understanding of key words such as - catapult force missile propel design balsa wood carve rubber bands measure fling speed direction lever projectile	This unit links to the Year 3 and 4 History curriculum on The Romans. It also has links to forces in Science. Children will consolidate understanding of push, pull, gravity, friction and air resistance. This unit builds on prior learning of 'moving toys' and 'moving pictures' in KS1.	Skills Make labelled drawings. Develop and plan materials, equipment and processes, and suggest alternative methods of making, if the first attempts fail. Evaluate products Select appropriate tools and techniques for making their product Measure, mark out, cut and shape a range of materials.

	Evaluating Is able to investigate and analyse a range of existing products. Can 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 Applies their understanding of how to strengthen, stiffen and reinforce more complex structures. Understands and can use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. Applies their understanding of computing to program, monitor and control their products.			