

Design and Technology – Long Term Plan (LTP) and Skills Progression – Peter Gladwin School



Year A (2024/25) and Year B (2023/24)

KS1 – Year 1 and 2				
Skills Progression	<p>Previous learning from reception</p> <p>‘What’s in the box’ children explore and make their own models out of boxes. They practise joining and using appropriate tools</p> <p>Cooking- making cakes.</p>	<p><u>Design</u></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><u>Make</u></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><u>Technical knowledge</u></p> <ul style="list-style-type: none"> - build structures, exploring how they can be made stronger, stiffer and more stable - explore and use mechanisms in their products. 	<p><u>Evaluate</u></p> <ul style="list-style-type: none"> - explore and evaluate a range of existing products - evaluate their ideas and products against design criteria <p><u>Cooking and Nutrition</u></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.
Year 1	Topics	<p>Autumn 1</p> <p>Happy Holidays!</p> <p>Autumn 2</p> <p>London’s burning</p>	<p>Spring 1</p> <p>Antarctic Adventures</p> <p>Spring 2</p> <p>Traditional Tales</p>	<p>Summer 1</p> <p>Hero Hunters</p> <p>Summer 2</p> <p>Green Gardeners</p>
Projects		<p>Free standing structures</p> <p>Playground equipment</p> <p>Children learn what structure is and the materials, shapes and sizes that they can be. How they can make their structures secure and stable. Children learn how to join materials together using the tab, flang and join. They evaluate their design</p>	<p>Wheels and axles</p> <p>Moving vehicle for the penguin</p> <p>Children learn about wheels, chassis and axles.</p> <p>Children make prototypes.</p> <p>Children design and make and evaluate their own moving vehicle for the penguin.</p>	<p>Food and nutrition</p> <p>Smoothies</p> <p>Children learn about different tools for cutting, slicing, chopping, peeling, and grating.</p> <p>Children experiment with different tools and how to use them safely.</p> <p>Hygiene and safety is taught a long side this unit</p> <p>Children design, make and evaluate</p>

				their own smoothie
Key vocabulary		<u>Autumn</u> Structure Free standing structures Tab joins Flange joins Staggered brick pattern Prototype Stable Secure	<u>Spring</u> Wheels Chassis Axles Prototype	<u>Summer</u> Peeling Grating Slicing Chopping
Year 2	Topics	Autumn 1 Time Travellers Autumn 2 Ocean Adventures	Spring 1 Unsinkable? Spring 2 Location, Location	Summer 1 No Place Like Home Summer 2 Around the World with the Three Bears
<u>Previous learning</u> <u>Autumn</u> -How to join materials <u>Spring</u> -New learning <u>Summer</u> -food and nutrition from year one. Tools and appliances. Good hygiene when preparing food Healthy diet		<u>Mechanisms , sliders and levers</u> Dioramas The children learn what a Diorama is. They explore different ways to make levers and sliders. They design and create a background for the dioramas, create a mechanism for their diorama and evaluate this.	<u>Textiles and sewing</u> Make a pillow The children explore and talk about what makes a comfortable pillow. They learn how to join the materials together including how to thread a needle and sew basic stitches.	<u>Food and nutrition</u> Sandwiches The children talk about what makes a healthy diet and where foods come from. The children design and plan a picnic for the Teddies. They use appropriate tools to prepare sandwiches.
Key vocabulary		<u>Autumn 1</u> Levers Sliders Diorama	<u>Spring</u> Needle Thread Fabric Sew Stitch	<u>Summer</u> Proteins Carbohydrates Fats Sugar Eatwell plate Cutting Spreading slicing

Lower KS2				
Skills Progression	<p>Previous learning</p> <p><u>Autumn</u>-Sewing pillows (Year 2)</p> <p><u>Spring</u>-Playground structures (Year 1)</p> <p><u>Summer</u>-Cooking and nutrition (Yr1 and 2) Smoothies/Sandwiches Tools and appliances. Good hygiene when preparing food. What makes a healthy diet.</p>	<p><u>Design</u></p> <p>-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</p> <p>-generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p><u>Make</u></p> <p>- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]</p> <p>- 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> <p><u>Technical knowledge</u></p> <p>-apply their understanding of how to strengthen, stiffen and reinforce more complex structures</p> <p>-understand and use mechanical systems in their products.</p>	<p><u>Evaluate</u></p> <p>-Investigate and analyse a range of existing products</p> <p>-Evaluate their ideas and products against their own design criteria and consider the views others to improve their work</p> <p>- understand how key events and individuals in design and technology have helped shape the world</p> <p><u>Cooking and nutrition</u></p> <p>-Understand and apply the principles of a healthy and varied diet</p> <p>-Prepare and cook a variety of predominately savoury dishes using a range of cooking techniques</p>
Year 3/4 Year A - Topics		Autumn A Raiders and Traders	Spring A Extreme Earth	Summer A Rumble in the Jungle
Projects		<p>Textiles/sewing</p> <p>Pouches</p> <p>Children will learn that different fabrics have different properties and characteristics.</p> <p>They will learn different sewing techniques and finish by making a bag.</p>	<p>Structures</p> <p>Shelters</p> <p>Children will design, build and evaluate shelters</p>	<p>Food and nutrition</p> <p>Smoothies</p> <p>Children will learn how fruit is grown and where it comes from. They will learn how to prepare fruit and the importance of hygiene and safety.</p> <p>They will plan, make and evaluate their own smoothie</p>
Key vocabulary		<p><u>Autumn</u></p> <p>Running stitch, back stitch, invisible stitch,</p>	<p><u>Spring</u></p> <p>Stable Reinforce Secure</p>	<p><u>Summer</u></p> <p>Proteins Carbohydrates Fats</p>

	whip stitch, template, garment	Prototype	Sugar Eatwell plate Cutting Spreading slicing
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Year 3/4 Year B - Topics	Autumn B Up, Up and Away!	Spring B Amazing Africa	Summer B Tools and Tribes
<u>Previous learning</u>	Mechanical systems Moving pneumatic monsters Children explore different pneumatic systems and investigate how they work. They learn how air pressure can be used to produce and control movement They learn techniques for making simple pneumatic systems. They plan, make and evaluate a moving monster	Structures Making African instruments Children investigate and analyse musical instruments. They explore Kalimbas and how they work. They select suitable tools and materials to create a Kalimba. They design, strengthen and use in a production and then evaluate its effectiveness.	Structures Prehistoric structures/Cooking
<u>Key vocabulary</u>	<u>Autumn 1</u> control pneumatic system, pressure inflate deflate input, output pump	<u>Spring</u> stable reinforce secure prototype joins	<u>Summer</u>

Upper KS2				
Skills Progression	<u>Previous learning</u> <u>Autumn-</u> Year3/4 shelters and instruments	<u>Design</u> -use research and develop design criteria to inform the design of innovative, functional, appealing	<u>Make</u> -select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting,	<u>Evaluate</u> -investigate and analyse a range of existing products -evaluate their ideas and products

	<u>Spring-</u> Pneumatics monsters year 3/4 (B) <u>Summer-</u> Year 1 playground equipment Year 2 dioramas Year 3 shelter Year 5-pop up books (B)	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	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 <u>Technical knowledge</u> -apply their understanding of how to strengthen, stiffen and reinforce more complex structures -understand and use mechanical systems in their products - understand and use electrical systems in their products -apply their understanding of computing to programme, monitor and control their 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. <u>Cooking and nutrition</u> -Understand and apply the principles of a healthy and varied diet -Prepare and cook a variety of predominately savoury dishes using a range of cooking techniques -Understand seasonality and know how a variety of ingredients are grown, reared, caught and processed
Year 5/6 Year A		Autumn A We'll meet again	Spring A Reach for the Stars	Summer A Secrets of the Nile
Projects		Structures Anderson Shelters The children design make and evaluate their own Anderson Shelters. They collect, research and select appropriate materials and tools.	Mechanism Cam toy/rotating planet The children learn about different types of cam mechanisms The children design, construct and evaluate construct a cam toy.	Structures/Levers and Pulleys Make a Shaduf Children design and make their own shaduf which is a type of lever. They decide who or what the product is for. They cut, stick and assemble materials. They evaluate how well it meets its purpose and discuss how to improve the mechanism.
Key Vocabulary		Autumn 1 Cutting, Joining Modify Shaping	Spring Cam shaft snail shaft eccentric cam movement	Summer Shaduf Lever Pivot Effort

	Strengthen Stiffen Function Plan Design fit for purpose	rotation slider Component Mechanism Motion follower	Oscillate fulcrum, load strengthen support
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Year 5/6 Year B	Autumn B Into the Unknown	Spring B Treasures of Ancient Greece	Summer B Beaches and Boats
<u>Previous learning</u> Sewing-making pillows (Yr2), Pouches (yr3/4 A) Mechanisms Dioramas (Yr2), Rotating planets (Yr5/6 A) Structures - Shaduf (Yr5/6 A)	Textiles Draw string bag The children follow sewing instructions to create a draw string bag. They learn different stitches and how to join fabric. The evaluate the final piece	Mechanism/Levers Pop up books The children learn to join materials effectively and select appropriate tools. They learn how levers and linkage mechanisms work. They learn to create different pop mechanisms-box fold, mouth fold	Mechanisms/Cooking Boats
Key vocabulary	<u>Autumn</u> Running stitch back stitch invisible stitch whip stitch template garment	<u>Spring</u> Linkage mechanism pop up prototype loose pivot fixed pivot components	<u>Summer</u>