

Design and Technology Curriculum				
Early Years Curriculum				
Expectations for Nursery		Expectations for Reception		
			ELG	Key Vocabulary
<p><u>Understanding the World</u></p> <ul style="list-style-type: none"> • Explore how things work. • Provide mechanical equipment for children to play with and investigate. Suggestions: wind-up toys, pulleys, sets of cogs with pegs and boards. • Talk about the differences between materials and changes they notice. Provide children with opportunities to change materials from one state to another. Suggestions: - cooking – combining different ingredients, and then cooling or heating (cooking) them - melting – leave ice cubes out in the sun, see what happens when you shake salt onto them (children should not touch to avoid danger of frostbite) 	<p><u>Expressive Arts and Design</u></p> <ul style="list-style-type: none"> • Explore different materials freely, to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. 	<p><u>Expressive Arts and Design</u></p> <ul style="list-style-type: none"> • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Provide children with a range of materials for children to construct with. • Encourage them to think about and discuss what they want to make. • Discuss problems and how they might be solved as they arise. • Reflect with children on how they have achieved their aims. • Teach children different techniques for joining materials, such as how to use adhesive tape and different sorts of glue. • Provide a range of materials and tools and teach children to use them with care and precision. <p>Physical Development</p> <ul style="list-style-type: none"> • Develop their small motor skills so that they can use a range of tools competently, safely and confidently. 	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - Share their creations, explaining the process they have used;</p>	<p>Plan and introduce new vocabulary related to the exploration, and encourage children to use it.</p> <p>Cut Stick Glue Snip Spread Chop Join Build Tools Construct Materials Texture</p>
<p>Activities: Autumn 1 – Collage colour pictures, rainbows Autumn 2- 3D fireworks, fork fireworks. Christmas cards and decorations. Spring 1- different material food plates making healthy pizzas Spring 2 – Shape caterpillars and symmetrical butterflies. Chocolate rice krispie cakes Summer 1- Junk model homes and buildings. Summer 2 – fish collage pictures and shape ice creams</p>		<p>Activities: Autumn 1 – All About Me – Draw a person using collage Autumn 2 – Transport - Exploring the different ways vehicles move. Spring 1 – Planets – Use Mud Roc to make planets, play doh and plasticine aliens Spring 2 - Dinosaurs – different materials for nests and eggs, make herbivore, omnivore and carnivore sandwiches. Summer 1 – Mini-Beasts – make moving ladybirds using split pins. Summer 2 – Knights, Castles and dragons – making zig zag dragons.</p>		

Milestone 1			
Year 1			
Area	Key Vocabulary	Sticky Knowledge	Essential Skills and knowledge to be covered
Food: Egg products How to post a Penguin's Egg.	Hygienic Cutting Peeling Texture Smooth Yolk Boiled Soft and hard Spread Mixture egg	<ul style="list-style-type: none"> We need to wash our hands before handling food to stop the spread of bacteria. Eggs can be cooked in lots of ways. Boiling them in their shells is one way. To get a soft yolk, we boil the egg for about 5 minutes. To get a hard boiled egg we boil it for about 10 minutes. A sandwich is made with bread, margarine and filling. 	<ul style="list-style-type: none"> Investigate the length of time needed to soft boil and hard boil an egg. Make sandwiches using eggs and cress. Cut, peel or mash ingredients safely and hygienically; wash hands and surfaces. Spread margarine neatly and assemble the elements of a sandwich. Assemble or cook ingredients. Measure the length of time needed to cook an egg. Think of interesting ways of cutting their sandwiches.
Textiles and materials: Superhero cape Superheroes	Template Materials Scissors Cut dye	<ul style="list-style-type: none"> Materials can be cut with scissors. A template is used to cut out a specific shape. The colour of a material can be changed using dye. 	Design and Make a cape for their superhero <ul style="list-style-type: none"> Cut materials safely using tools provided. Shape the materials using a template. Dye materials.
Structure How to Post a Penguin's Egg/ Amazing Saces and Places in the UK	Structure Strengthen Cables Steel Product Refine join	<ul style="list-style-type: none"> The Severn Bridge spans the River Severn between England and Wales. It is made of cables and steel. Rolling more sheets of paper together makes the paper stronger. To make the structure longer you can use sellotape or glue to join sheets of paper. Triangles are strong shapes to build with. 	Make a replica of the Severn Bridge. <ul style="list-style-type: none"> Roll paper to make it stronger. Identify which shapes are strong and which are weak to build with. Use sellotape and glue to join materials together. Make products, refine a design as work progresses. Take inspiration from design in history – explore how products have been created.

			<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.
<p>Materials and construction:</p> <p>Design packaging to post an egg safely.</p> <p>How to Post a Penguin's Egg</p>	<p>Material</p> <p>Opaque</p> <p>Transparent</p> <p>Waterproof</p> <p>Absorbent</p> <p>Bendy</p> <p>Stable</p> <p>stiff</p> <p>Protective</p> <p>Bubble wrap</p> <p>Wood</p> <p>Hinges</p>	<ul style="list-style-type: none"> • Some materials are better at protecting than others. • Textiles will help to protect the egg but may not be strong enough to hold it. • Wrapping the egg in material or bubble wrap would help to stop it rattling around and possibly cracking. • A solid box would help to stop the egg being crushed. This could be made from wood. • A hinge is something that connects two objects and lets them rotate. (This means it moves in a circular motion.) 	<p>Design and make a package for an egg that can be posted without breaking.</p> <ul style="list-style-type: none"> • Cut out materials neatly and accurately with scissors. • Join card using hinges. • Explore how card can be made stronger, stiffer and more stable. • Glue strips of wood. • Create a fastening to secure the package. • To fold card in order to shape it.

Year 2			
Area	Key Vocabulary	Sticky Knowledge	Essential Skills and knowledge to be covered
Food From Field to Fork	Grating/grate Measure Grams Stirring Combining Nutritious Balanced Germs millilitres	<ul style="list-style-type: none"> I will know that I must wash my hands before touching food and I must wash the fruit and vegetables. To use a vegetable peeler safely I grip the peeler in one hand, the vegetable in the other, then hold the vegetable at an angle and slide the peeler over the skin to remove it – away from my body. That to measure weight we use weighing scales and the unit of measure is grams or kilograms. To use a knife safely - position it for cutting by pointing downwards. I will know that different amounts of different ingredients are used to make a final product. I will know that I need to follow the steps in a recipe. That food packaging needs a label, best before date, ingredients, barcode and picture. 	To make carrot cake. <ul style="list-style-type: none"> Cut, peel and grate safely and hygienically. Measure or weigh using measuring cups or scales. Assemble or cook ingredients.
Structure Great and Ghastly Events	Wattle Daub Flammable Thatch Weaving Framework	<ul style="list-style-type: none"> Tudor houses were made from wood, wattle and daub. They often had straw roofs – thatch. These materials were flammable – they caught fire easily. Wattle is a framework made by weaving thin sticks together. 	To make a Tudor house <ul style="list-style-type: none"> To make a product, refining the design as work progresses. To suggest improvements to existing designs. To measure wood using rulers and tape measures to the nearest cm. To cut wood safely with a saw. To join wood using glue.

		<ul style="list-style-type: none"> • Daub is the sticky substance, often made from clay, wet soil, sand or animal dung and straw. It was smeared (or daubed) over the wattle to make walls in houses. 	
Mechanism Australian Adventure Levers, wheels and winding mechanisms.	Lever Bar Rotate Winding mechanism	<ul style="list-style-type: none"> • A lever is a moveable bar that pivots and is attached to a fixed point. • To operate the lever force needs to be applied. • Where a lever is “floppy” it can be strengthened with pipe cleaners, straws or lollipop sticks. • Scissors and a seesaw are simple examples of a lever. • A winding mechanism helps to raise or lower something. 	<ul style="list-style-type: none"> • Design and make a toy habitat for an Australian animal using a lever mechanism. • To explore and use levers. • To create a product using a lever, wheels and winding mechanisms. • Cut the card / box accurately using scissors. • Cut wooden dowelling safely using tools provided. • Measure and mark out to the nearest cm when cutting wood / card / plastic tubing. • Identify weak points and suggest how to strengthen. • Demonstrate a range of joining techniques to allow movement in their product.
Mechanism Marvellous Mechanisms	Catapult Projectile Device Propel Restrain Force Load release Pivot Fixed point Fulcrum	<ul style="list-style-type: none"> • Catapults use weights and levers to send rocks (or frosties) into the air. • A key part to a lever is the fulcrum. This is a fixed point that allows the lever to rotate around it. • The fulcrum can be in the centre (seesaw) or at one end (hinge on a door). • They have a bucket or pouch to hold the weapon (rock or frosties) before it is released. • The bucket is held back with a restraint such as a rope before being released to release the load. 	<ul style="list-style-type: none"> • To design and create a mechanism to propel frosties into a cup. Explore wheels and axles. • Use levers to propel objects. • Use sliders to open, close or move an object. • Use wheels and axles to make an object move. • Saw dowelling to within a cm of accuracy.

		<ul style="list-style-type: none"> An axle is the rod that joins wheels through their centre. 	
Textiles Marvellous Mechanisms	Template Textiles Running stitch binka	<ul style="list-style-type: none"> A keyring is a practical ring to hold different keys. Running stitch is where the needle goes into the material and out through the opposite side and makes a neat dashed line on either side. The needle and thread you use depends on the type of material you use. 	To make keyrings for our Enterprise <ul style="list-style-type: none"> Shape textiles using templates. Cut textiles with scissors carefully and to the correct size. Join textiles using running stitch.

Design Technology Skills		
National Curriculum overview - Milestone 1		
Master Practical skills	Design, make, evaluate and improve	Inspiration from design in history
<p>Food</p> <ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook ingredients. <p>Materials</p> <ul style="list-style-type: none"> • Cut materials safely using tools provided. • Measure and mark out to the nearest centimetre. • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling) • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). <p>Textiles</p> <ul style="list-style-type: none"> • Shape textiles using templates • Join textiles using running stitch. • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). <p>Computing</p> <ul style="list-style-type: none"> • Model designs using software. <p>Construction</p> <ul style="list-style-type: none"> • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products <p>Mechanics</p> <ul style="list-style-type: none"> • Create products using levers, wheels and winding mechanisms. 	<ul style="list-style-type: none"> • Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses. • Use software to design. 	<ul style="list-style-type: none"> • Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.