

Design and Technology LTP

Year	Nutrition (4 x 1h 30m lessons) PPA	Spring 1	Summer 2 4 x 2 hours lessons across the term	ICT Autumn 2, Spring 2 or Summer 1
R	<p>Cooking and nutrition: Soup (6 lessons)</p> <p>In this unit, children explore the differences between fruits and vegetables using their senses (taste, texture, smell etc.). They listen to the story 'The best pumpkin soup' and discuss the key ingredients the characters used before developing a class-based vegetable soup recipe.</p>	<p>Structure: Junk modelling (6 lessons)</p> <p>In this unit, pupils explore and learn about various types of permanent and temporary join. They are encouraged to tinker using a combination of materials and joining techniques in the junk modelling area.</p>	<p>Textiles: Bookmarks (6 lessons)</p> <p>Pupils develop and practise threading and weaving techniques using various materials and objects. They look at the history of the bookmark from Victorian times versus modern-day styles. The pupils apply their knowledge and skills to design and sew their own bookmarks.</p> <p>Structures: Boats (6 lessons)</p> <p>In this unit, children explore what is meant by 'waterproof,' 'floating,' and 'sinking,' then experiment and make predictions with various materials to carry out a series of tests. They learn about the different features of EYFS boats and ships before investigating their shape and structures to build their own.</p>	
1	<p>Cooking and nutrition: Smoothies (6 lessons)</p> <p>Preparing foods by cutting and juicing and selecting fruits and vegetables to create a smoothie to meet a design brief.</p>	<p>Mechanisms: Option 1 Wheels and axles (5 lessons)</p> <p>This unit the children will be looking at different wheels to design and make a pull-along toy</p>	<p>Textiles: Puppets (4 lessons)</p> <p>This unit's theme is based on the children choosing a storybook character to base their puppet designs on.</p> <p>Structure: constructing a windmill (4 lessons)</p> <p>This unit introduces a new windmill design for a new client, which the children will construct to meet updated design criteria.</p>	
2	<p>Cooking and nutrition: Balanced diet (6 lessons)</p> <p>Discovering the importance of a balanced diet and creating a tasty, balanced wrap to meet a design brief.</p>	<p>Mechanisms: Making a moving monster (4 lessons)</p> <p>This unit's theme is based on how to make a moving monster. Exploring pivots, levers and linkages.</p>	<p>Textiles: Pouches (4 lessons)</p> <p>This unit the children will learn a running stitch to make and decorate a pouch.</p>	

			<p>Structure: Baby Bear's chair (4 lessons)</p> <p>This unit will explore stability and strengthening materials to make and test Baby Bear's chair.</p>	
3	<p>Cooking and nutrition: Eating seasonally (6 lessons)</p> <p>Children develop their food preparation skills while learning about seasonal foods and creating a seasonal food tart.</p> <p>Session 1: lessons 1 & 2</p> <p>Session 2: lessons 3 & 4</p> <p>Session 3: lesson 5</p> <p>Session 4: lesson 6</p>	<p>Mechanisms: option 1 Pneumatic toys (5 lessons)</p> <p>Exploring pneumatic systems, applying understanding to design and create a pneumatic toy using different types of diagrams.</p>	<p>Textiles: Cross stitch and appliqué option 2: Cushions (4 lessons)</p> <p>Learning how to use cross-stitch and appliqué when designing and making a mini cushion.</p> <p>Structure: Constructing a castle (4 lessons)</p> <p>Identify and learn about the key features of a castle, before designing and making a recycled-material castle (structure).</p>	<p>Digital world: Wearable technology (6 lessons)</p> <p>Designing digital wearable technology and developing a program and housing for a Micro:bit.</p> <p>Electrical systems: Electric poster (4 lessons)</p> <p>This unit strengthens the progression of knowledge and skills across the Electrical systems strand and introduces the children to information design before they develop an electric museum display based on the Romans.</p>
4	<p>Cooking and nutrition: Adapting a recipe (6 lessons)</p> <p>Learning a basic biscuit recipe and adapting it for a new audience while considering the cost of ingredients and other expenses against a set budget</p>	<p>Mechanisms: option 1 Mechanical cars (5 lessons)</p> <p>Making and designing mechanical cars that use different methods of movement.</p>	<p>Textiles: Fastenings (4 lessons)</p> <p>Children will apply fastening to design and create a book sleeve using fabric</p> <p>Structure: Pavilions (4 lessons)</p> <p>Explore frame structures to build a pavilion frame</p>	<p>Digital world: Mindful moments timer (6 lessons)</p> <p>Exploring the concept of mindfulness and writing design criteria to develop a programmed product for timing a mindful moment. Sse of a virtual Micro:bit.</p> <p>Electrical systems: Torches (4 lessons)</p> <p>Evaluating a range of existing torches and designing a functional torch for a target audience.</p>
5	<p>Cooking and nutrition: Developing a recipe (6 lessons)</p> <p>Learning a simple bolognese recipe and adapting it to improve nutritional content.</p> <p>Session 1: lessons 1 & 2</p> <p>Session 2: lessons 3 & 5</p> <p>Session 3: lesson 4</p> <p>Session 4: lesson 6</p>	<p>Mechanisms: option 1 Gears and pulleys (5 lessons)</p> <p>Making and designing gear and pulley systems and exploring their uses.</p> <p>Design an eco-gadget bike.</p>	<p>Textiles: Stuffed toys (4 lessons)</p> <p>This unit's theme is based on the children choosing an animal or simple shape to base their stuffed toys on.</p> <p>Structure: Bridges (4 lessons)</p> <p>Children will explore arch and beam bridges, spaghetti truss bridges and wooden truss bridges</p>	<p>Digital world: Monitoring devices (4 lessons)</p> <p>Applying computing skills to program a Micro:bit animal monitor and using 3D CAD tools in Tinkercad to design a case, housing or stand.</p> <p>Electrical systems: Doodlers (4 lessons)</p> <p>Investigating an existing motorised product and problem-solving to</p>

				understand its construction before developing their own.
6	Cooking and nutrition: Come dine with me (6 lessons) Selecting three recipes to create a three-course meal, this unit includes lessons that explore basic tastes and complementary flavours	Mechanisms: Automata toys (4 lessons) Developing functional automata toys for a window display using cams, followers and axles to create movement.	Textiles: Waistcoats (4 lessons) Using a combination of textiles skills such as attaching fastenings, appliqué and decorative stitches, children design, assemble and make a waistcoat Structure: Playgrounds (4 lessons) Children will design 5 apparatus designs and create the playground structure	Digital world: Navigating the world (5 lessons) Design and program a navigation tool to produce a multifunctional device for trekkers using CAD 3D modelling software. Electrical systems: Steady hand game (4 lessons) Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game