Long Term Map and Outline for Design and Technology

	Autumn	Spring	Summer
YN	Cutting and sticking - Collages	Junk modelling - Using tape	Look what I can make: A showcase
YR	**Food: Soup** 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.	**Junk Modelling** Children 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.	**Boats** 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 boats and ships before investigating their shape and structures to build their own.
Y1	**Mechanisms: Making a moving story book** Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it.	**Textiles: Puppets** Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairy tale. Develop technical skills of cutting, gluing, stapling and pinning.	**Structures: Constructing a Windmill** Design, decorate and build a windmill for a mouse (client) to live in, develop an understanding of different types of windmill, how they work and their key features. Look at real existing examples and the functions that they carry out.
Y2	**Mechanisms: Fairground wheel** Design and create a functional Ferris wheels, consider how the different components fit together so that the wheels rotate and the structure stands freely. Select appropriate materials and develop their cutting and joining skills.	**Textiles: Pouches** Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch.	**Food: A balanced diet** Explore and learn what forms a balanced diet, pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy.
Y3	Structures: Constructing a castle Learning about the features of a castle, pupils design and make one of their own. They will also be using configurations of handmade nets and recycled materials to make towers and turrets before constructing a stable base.	Mechanical systems: Pneumatic toys Design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts. Pupil are introduced to thumbnail sketches and exploded diagrams.	Textiles: Cross stitch – Egyptian collars Introduce two new skills to add to the pupils' repertoire: cross stitch and appliqué. Pupils apply their knowledge to the design, decoration and assembly of their own Egyptian collars.
Y4	Electrical systems: Torches Pupils apply their scientific understanding of electrical circuits to create a torch made from recycled and reclaimed materials and objects. They design and evaluate their product against set design criteria.	Mechanical Systems: Making a slingshot car Transform lollipop sticks, wheels, dowel and straws into a moving car. Pupils use a glue gun to construct, make the launch mechanism, design and create the chassis of a vehicle using nets.	Food: Adapting a recipe Work in groups to adapt a simple biscuit recipe, to create the tastiest biscuit ensuring that their creation comes within the given budget of overheads and costs of ingredients.
Y5	Mechanical systems: Pop-up book Create a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.	Structures: Bridges After learning about various types of bridges and exploring how the strength of structures can be affected by the shapes used, create their own bridge and test its durability - using woodworking tools and techniques.	Food: What could be healthier Research and modify a traditional bolognese sauce recipe to make it healthier. Cook improved versions, creating appropriate packaging and learn about where the ingredients the importance of animal welfare when farming cattle.
Y6	Electrical systems: Steady hand Design and create a steady hand game, use nets to create the bases and apply knowledge of electrical circuits to build an operational circuit with a buzzer that completes the circuit when the handle makes contact with the wire.	Digital world: Navigating the world Program a navigation tool to produce a multifunctional device for trekkers. Combine 3D virtual objects to form a complete product concept in 3D computer-aided design modelling software.	Textiles: Waist coats Select fabrics, use templates, pin, decorate and stitch materials together to create a waistcoat for a person or purpose of their choosing. Create or use a pattern template to fit a desired person or item (e.g. teddy bear).