



## Streethay Primary School



### Design and Technology Unit Overview

Year Group	Autumn 1	Spring 1	Summer 1
1	<b>Structures – Stable Structures</b> Explore stable shapes using innate sense of balance. Discover ways to make freestanding structure more stable with a wide or a heavy base. Design and make a fun and stable pencil pot for a Year 1 pupil.	<b>Textiles – Puppets</b> Exploring different ways of joining fabrics before creating their own hand puppets based upon characters from a well-known fairytale. Children work to develop their technical skills of cutting, gluing, stapling and pinning.	<b>Cooking and Nutrition - Smoothies</b> Handle and explore fruits and vegetables and learn how to identify fruit, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.
2	<b>Structures - Baby Bear's chair</b> Using the tale of Goldilocks and the Three Bears as inspiration, children help Baby Bear by making him a brand-new chair. When designing the chair, they consider his needs and what he likes and explore ways of building it so that it is strong.	<b>Mechanisms -Fairground wheel</b> Design and create a functional fairground wheel, consider how the different components fit together so that the wheel rotates and the structure stands freely. Select appropriate material properties and develop their cutting and joining skills. Research existing structures and survey to further inform the design.	<b>Mechanisms – Making a Moving Monster</b> After learning the terms, pivot, lever and linkage, children design a monster which will move using a linkage mechanism. Children practise making linkages of different types and varying the materials they use to bring their monsters to life.
3	<b>Cooking and Nutrition – Eating Seasonally</b> Discovering when and where fruits and vegetables are grown. Learning about seasonality in the UK and the relationship between the colour of fruits and vegetables and their health benefits by making three dishes.	<b>Digital World – Electronic Charm</b> Designing, coding, making and promoting a Micro: bit electronic charm to use in low-light conditions. Children develop their understanding of programming to monitor and control their products.	<b>Mechanical Systems – Pneumatic Toys</b> Explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.
4	<b>Textiles - Cross-stitch and applique</b> Children learn and apply two new sewing techniques – cross stitch and applique. Utilise these new skills to design a cushion/Christmas stocking	<b>Structures – Pavilions</b> Exploring pavilion structures, children learn about what they are used for and investigate how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.	<b>Electrical Systems – Torches</b> Applying their scientific understanding of electrical circuits, children create a torch, designing and evaluating their product against set design criteria.
5	<b>Electrical systems – Steady Hand Game</b> Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game using a series circuit, including housing and backboard	<b>Mechanical Systems – Making a pop-up book</b> Creating a four-page pop-up storybook design incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers.	<b>Cooking and Nutrition – Developing a recipe</b> Researching and modifying a traditional Bolognese sauce recipe to make it healthier. Children cook their healthier versions, making appropriate packaging and learn about farming cattle.
6	<b>Textiles – Waistcoats</b> Selecting suitable fabrics, using templates, pinning, decorating and stitching to create a waistcoat for a person or purpose of their choice.	<b>Structures- Playgrounds</b> Designing and creating a model of a new playground featuring five apparatus, made from three different structures. Creating a footprint as the base, pupils visualise objects in plain view and get creative with their use of natural features.	<b>Digital World – Navigating The World</b> Programming a navigation tool to produce a multifunctional device for trekkers. Combining 3D objects to form a complete product in CAD 3D modelling software and presenting a pitch to 'sell' their product.

