Design and Technology—Long Term Overview

Year Group	Autumn	Spring	Summer
Year 1	Mechanisms: Wheels and Axles Pupils incorporate their knowledge of mathematics by measuring components accurately to design and build a working vehicle with wheels and axles.	Cooking and Nutrition: Smoothies Pupils learn to prepare foods by cutting and juicing and selecting fruits and vegetables to create a smoothie to meet a design brief.	Structures: Windmills Pupils will explore types of windmills, how they work and their key features before designing and constructing a windmill for a mouse.
Year 2	Structures: Baby Bear's Chair Pupils will identify man-made and natural structures and Identify stable and unstable structural shapes. They will use this knowledge to identify features that make a chair stable and work independently to make a stable structure that supports a teddy, using the appropriate materials and construction techniques.	Cooking and Nutrition: A Balanced Diet Pupils will discover the importance of a balanced diet and creating a tasty, balanced wrap to meet a design brief.	Textiles: Pouches Pupils will learn to sew a running stitch with regular-sized stitches and understand that both ends must be knotted. They will prepare and cut fabric to make a pouch from a template and use a running stitch to join the two pieces of fabric together.
Year 3	Mechanisms: Pneumatic Toys Pupils will select appropriate equipment and materials to build a working pneumatic system assemble their pneumatic system within the housing to create the desired motion. Pupils will create a finished pneumatic toy that fulfills a design brief.	Cooking and Nutrition: Eating Seasonally Pupils will learn about seasonal foods and use their understanding to create a seasonal food tart.	Structures: Castles Pupils will recognise that a castle is made up of multiple 3D shapes and design a castle with key features which satisfy a given purpose. Pupils will utilise skills to build a complex structure from simple geometric shapes.
Year 4	Mechanisms: Slingshot Cars Pupils will work independently to produce an accurate, functioning car chassis. They will attempt to reduce air resistance through the design of the shape and produce panels that will fit the chassis. Pupils will conduct a trial accurately and draw conclusions and improvements from the results.	Cooking and Nutrition: Adapting a Recipe Pupils will learn a basic biscuit recipe and adapt t for a new audience while considering the cost of ingredients and other expenses against a set budget.	Textiles: Book Sleeves with Fastenings Pupils will identify the features, benefits and disadvantages of a range of fastening types. They will write design criteria and design a sleeve that satisfies the criteria. Pupils will create a template for their book sleeve and assemble their case using any stitch they are comfortable with.