

Design & Technology Overview

	Autumn term		Spring term		Summer term	
EYFS	Cooking and nutrition Healthy Choices		Structures & Mechanisms Construction		Textiles	
	Learn how to manage their own basic hygiene and personal needs including oral health and healthy food choices. Bake and cook a variety of foods		Create collaboratively, sharing ideas, resources and skills. Return and build on their previous learning, refining ideas and developing their ability to represent them.		Safely use and explore a variety of materials, tools and techniques experimenting with design, texture and function. Share their creations, explaining the process they have used.	
Year 1/2 A	Structures Baby Bear's Chair		Mechanisms Wheels and axles		Cooking and nutrition Fruit and vegetables	Textiles Puppets
	Using the tale of Goldilocks and the Three Bears, make Baby Bear a brand new chair. The design will consider his needs and what he likes and explore ways of building it so that it is a strong and stable structure and doesn't break again.		Learn about the key components of a wheeled vehicle and how wheels, axels and axel holders work. Demonstrate their learning by designing and building their own wheeled vehicles.		Explore fruits and vegetables and learn which food category they fall into. Taste and choose ingredients to make a smoothie.	Explore different ways of joining fabrics before creating their own hand-puppets based upon characters from a well-known fairy-tale.
Year 1/2 B	Cooking and Nutrition A balanced diet	Structures Constructing windmills	Mechanisms Moving monster		Textiles Pouches	
	Taste food combinations of different food groups. Make a wrap that includes a healthy mix of protein, vegetables and dairy, and learn about 'hidden sugars'.	Design, decorate and build a windmill for a mouse developing an understanding of different types of windmills, how they work and their key features.	After learning the terms; pivot, lever and linkage, children will design a monster that will move using a linkage mechanism. After practising making linkages of different types and varying the materials they use, children will bring their monsters to life with the gift of movement.		Make their own template, and cut it out using fabric. Use a simple running stitch to join two pieces together before decorating the front	
Year 3/4 A	Mechanical system Pneumatic toys		Structures Construction a castle	Cooking and Nutrition Eating seasonally	Electrical Systems Electric poster	
	Design and create a toy with a pneumatic system, learning how trapped air can be used to create a product with moving parts while also building on their design knowledge. They will then be introduced to thumbnail sketches and exploded diagrams		Learn the features of a castle before designing and making their own using configurations of handmade nets and	Discover when and where fruits and vegetables are grown. Learn about the colour of fruits and vegetables and their health benefits.	Pupils understand various forms of information design. Children to use their knowledge to create an information poster	

			recycled materials to make towers and turrets.		
Year 3/4 B	Structures Pavilions		Cooking and Nutrition Adapting a recipe	Digital World Monitoring devices	Mechanical systems Making a slingshot car
	Explore pavilion structures, learning about what they are used for and investigating how to create strong and stable structures before designing and creating their own pavilions, complete with cladding		Adapt a simple biscuit recipe, to create the tastiest biscuit. Ensure that their creation comes within the given budget of overheads and costs of ingredients	Design, program, prototype and brand a Micro bit mindful moments timer, to a specified amount of minutes. (Textiles- Fastenings)	Transform lollipop sticks, wheels, dowels and straws into a moving car. Use a glue gun to construct the materials, making the launch mechanism, designing and also making the body of the vehicle using nets and assembling these to the chassis
Year 5/6 A	Electrical Systems Doodlers	Cooking and Nutrition Adapt a Recipe	Mechanical systems Making a pop-up book		Structures Bridges
	Explore series circuits. Apply this knowledge to design and create a moving doodler.	Focussing on nutrition, children research and modify a traditional beef bolognaise recipe to make it healthier and cook their new improved version.	Choose a simple story or nursery rhyme, then create a four-page pop-up storybook design. Add accompanying captions, incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers		Introduction to measuring, sawing and joining wood accurately. Learn about different types of bridges and also exploring how the strength of structures can be affected by the shapes used. Children create their own wooden bridge and test its durability.
Year 5/6 B	Cooking and Nutrition Come dine with me	Digital world Navigating the world	Structure Playgrounds		Mechanical systems Automata toys
	Research and prepare a three-course meal. Taste-test and score the food. Research the journey of their main ingredient from 'farm to fork'.	Program a navigation tool to produce a multifunctional device for trekkers. Combine 3D objects to form a complete product in CAD 3D modelling software. (Textiles- Cushions)	Design and create a model of a new playground featuring five apparatus, made from three different structures. Creating a footprint as the base, pupils can practise visualising objects in plan view and also get creative with their use of natural features and cladding for their structures		Construct a window display using an automata mechanism; measuring and cutting their materials, assembling the frame, choosing cams, designing the characters that sit on the followers and also finishing with a foreground and background.

Mechanisms

(KS1) Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.

(KS2) Extend pupils understanding of individual mechanisms, to form part of a functional system, for example: Automatas, that use a combination of cams, followers, axles/shaft, cranks and topers.

Structures

(KS1) Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.

(KS2) Continue to develop KS1 exploration skills, through more complex builds such as pavilion and bridge designs. Understand material selection and learn methods to reinforce structures.

Textiles

(KS1) Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.

Cooking & Nutrition

(KS1) Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.

(KS2) Understand and apply the principles of a healthy and varied diet to prepare and cook a variety of dishes using a range of cooking techniques and methods. Understand what is meant by seasonal foods. Know where and how ingredients are sourced.

Electrical Systems (KS2)

Create functional electrical products that use series circuits, incorporating different components such as bulbs, LEDs, switches, buzzers and motors. Consider how the materials used in these products can:

- Protect the circuitry.
- Reflect light.
- Conduct electricity.
- Insulate.

Digital World (KS2)

Learn how to develop an electronic product with processing capabilities. Apply Computing principles to program functions within a product including to control and monitor it. Understand how the history and evolution of product design lead to the on-going Digital revolution and the impact it is having in the world today.