

Swain House Primary School Design and Technology Long Term Plan (Kapow)

Year group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYs						
Y1		Structures: Stable Structures (4 lessons) Designing, decorating and building a structure for a purpose. Children work to develop a best fit method for joining the parts of the product.		Textiles: Puppets (4 lessons) Exploring different ways of joining fabrics before creating their own hand puppets based upon characters from a well-known fairy-tale. Children work to develop their technical skills of cutting, gluing, stapling and pinning.	Food: Fruit and vegetables (4 lessons) Handling and exploring fruits and vegetables and learning how to identify which category they fall into, before undertaking taste testing to establish their chosen ingredients for the smoothie they will make a design packaging for.	
Y2		Structures: Baby Bear's Chair Identify man-made and natural structures. Identify stable and unstable structural shapes. Contribute to discussions. Work independently to make a stable structure, following a demonstration. Explain how they made their model strong, stiff and stable.		Mechanisms: Making a moving animal (4 lessons) 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.		Mechanisms: Fairground wheel (4 lessons) Designing and creating their own Ferris wheels, considering how the different components fit together so that the wheels rotate and the structures stand freely. Pupils select appropriate materials and develop their cutting and joining skills.
Y3	Food: Eating seasonally (4 lessons) 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.			Digital world: Electronic charm (4 lessons) 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.		Structures: Constructing a castle (4 lessons) Learning about the features of a castle, children design and make one of their own. Using configurations of handmade nets and recycled materials to make towers and turrets and constructing a base to secure them.
Y4	Mechanical systems: Making a slingshot car (4 lessons) Transforming lollipop sticks, wheels, dowels and straws into a moving car. Using a glue gun to, making a launch mechanism, designing and making the body of the vehicle		Structure: Pavilions (4 lessons) 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.		Food: Adapting a recipe (4 lessons) Analyse and evaluate a range of existing biscuits and packaging then bake biscuits and design suitable packaging.	

	using nets and assembling these to the chassis.					
Y5	Electrical systems: Doodlers Explore series circuits further and introduce motors. Explore how the design cycle can be approached at a different starting point, by investigating an existing product, which uses a motor, to encourage pupils to problem-solve and work out how the product has been constructed, ready to develop their own.		Mechanical systems: Making a pop-up book (4 lessons) Creating a four-page pop-up storybook design incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers.		Food: What could be healthier? (4 lessons) 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.	
Y6		Textiles: Waistcoats (4 lessons) Selecting suitable fabrics, using templates, pinning, decorating and stitching to create a waistcoat for a person or purpose of their choice.	Structure: Playgrounds (4 lessons) 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 plan view and get creative with their use of natural features.		Digital world: Navigating the world (4 lessons) 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.	