

# Design & Technology Long/ Medium Term Curriculum Map

*Differentiation by input see the weekly planning/slides and activities ensure SEND pupils' targets are being used to support pupils in every lesson* -Key vocab for each learning objective is in **red font**  
 -Resources -see the weekly planning/slides / Ensure the resources extend the context they are learning through and supports their enjoyment of design and technology. -Minimum Assessment for Learning strategies for all topics = Peer Talk; targeted questioning; mini white boards; and self and peer marking - Long term memory development strategies= Recapping pervious learning at the start of each new topic

	Year A			Year B		
	Autumn term	Spring Term	Summer term	Autumn term	Spring Term	Summer Term
<b>Ruby Class</b> Nursery/Reception	<u>Autumn: Structures (Junk Modelling)</u> Exploring and learning about various types of <b>permanent</b> and <b>temporary</b> join. Pupils are encouraged to tinker using a <b>combination of materials</b> and <b>joining techniques</b> in the junk modelling area.		<u>Spring: Textiles (Bookmarks)</u> Developing and practising <b>threading</b> and <b>weaving techniques</b> using various materials and objects. Pupils look at the history of the bookmark from Victorian times versus modern-day styles. The pupils apply their knowledge and skills to <b>design</b> and sew their own bookmarks.	<u>Summer: Structures (Boats)</u> Exploring what is meant by <b>waterproof, floating</b> and <b>sinking</b> , pupils experiment and make <b>predictions</b> with various materials to carry out a series of <b>tests</b> . They learn about the different <b>features</b> of boats and ships before investigating their shape and <b>structures</b> to build their own.		
<b>Sapphire Class</b> Y1/2	<u>Structures: Constructing a windmill</u> Construct a windmill to complete a request from a user. Develop an understanding of different types of windmill, how they work and their key features. Begin to use technical skills such as making evenly spaced cuts and adding weight to ensure a successful structure. LO 1: Understand key parts of a <b>windmill</b> . LO 2: <b>Build</b> and <b>strengthen</b> simple <b>structures</b> .	<u>Mechanisms: Making a moving monster</u> 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. LO 1: Create <b>pivot, lever, and linkage mechanisms</b> . LO 2: Design and build a moving monster.	<u>Cooking and nutrition: Smoothies</u> 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. LO 1: <b>Identify</b> fruits and vegetables. LO 2: <b>Taste test</b> and <b>design</b> their own smoothie.	<u>Structures: Baby bear's chair</u> 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. LO 1: Design a chair considering <b>user needs</b> . LO 2: Build strong <b>structures</b> using different <b>joining methods</b> .	<u>Mechanisms: Fairground wheel</u> 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. LO 1: Design and create a <b>rotating wheel</b> structure. LO 2: Select <b>appropriate materials</b> for different <b>components</b> .	<u>Textiles: Puppets</u> 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. LO 1: Explore different <b>fabric joining</b> techniques. LO 2: Design and create a hand puppet.
<b>Diamond Class</b> Y3/4	<u>Digital world: Wearable technology</u> Design, code and promote a piece of wearable technology to use in low light conditions, developing their understanding of programming to monitor and control products to solve a design scenario. LO 1: Design a <b>wearable device</b> for low light conditions. LO 2: <b>Code</b> a product to <b>control</b> light output.	<u>Cooking and nutrition: Eating seasonally</u> Pupils discover when and where fruits and vegetables are grown and learn about seasonality in the UK. They respond to a design brief to design a seasonal food tart using ingredients harvested in the UK in May and June. LO 1: Understand <b>seasonality</b> of fruits and vegetables. LO 2: Design and make a seasonal food dish.	<u>Structures: Constructing a castle</u> 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. LO 1: Explore <b>features</b> of castles. LO 2: Design and build their own <b>model</b> castle.	<u>Mechanical systems: Mechanical cars</u> 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 using nets and assembling these to the chassis. LO 1: Explore different <b>mechanical systems</b> . LO 2: Design and build a <b>moving mechanical vehicle</b> .	<u>Structures: Pavilions</u> 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. LO 1: Explore and build strong <b>pavilion structures</b> . LO 2: Apply <b>cladding</b> techniques for <b>decoration</b> .	<u>Electrical systems: Torches</u> Applying their scientific understanding of electrical circuits, children create a torch, designing and evaluating their product against set design criteria. LO 1: Create a working <b>electrical circuit</b> . LO 2: Design and build a <b>functional</b> torch.
<b>Emerald Class</b> Y5/6	<u>Structures: Playgrounds</u> 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. LO 1: Design and build playground equipment models. LO 2: Explore different <b>structures</b> and <b>plan views</b> .	<u>Mechanical systems: Pop-up book</u> Creating a four-page pop-up storybook design incorporating a range of mechanisms and decorative features, including: <b>structures, levers, sliders, layers and spacers</b> . LO 1: Design and build a pop-up book with moving parts.	<u>Electrical systems: Doodlers</u> 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. LO 1: Explore and build simple <b>motorised circuits</b> . LO 2: Design a product starting from <b>analysis</b> of an existing item.	<u>Textiles: Waistcoats</u> Selecting suitable fabrics, using templates, pinning, decorating and stitching to create a waistcoat for a person or purpose of their choice. LO 1: Use <b>templates</b> to cut fabric accurately. LO 2: <b>Stitch</b> and <b>decorate</b> a waistcoat for a chosen user.	<u>Cooking and nutrition: Developing a recipe</u> Research and modify a traditional bolognese sauce recipe to improve the nutritional value. Cook improved version and create packaging that fits design criteria. Learn about where beef comes from. LO 1: Improve the <b>nutritional value</b> of a traditional recipe. LO 2: Design <b>packaging</b> for a <b>food product</b> .	<u>Digital world: Navigating the world</u> 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. LO 1: Use <b>CAD software</b> to design a 3D object. LO 2: Program and pitch a <b>navigation device</b> for trekkers.