



Longsight Community Primary School

DT Long Term Plan

	Autumn		Spring		Summer	
	Autumn 1 Art taught in this half	Autumn 2	Spring 1 Art taught in this half	Spring 2	Summer 1 Art taught this half	Summer 2
Reception		<p><u>Structures: Junk Modelling</u></p> <p>Exploring and learning about various types of permanent and temporary join. Pupils are encouraged to tinker using a combination of materials and joining techniques in the junk modelling area.</p>		<p><u>Textiles: Making Bookmarks</u></p> <p>Developing and practising threading and weaving techniques using various materials and objects. The pupils apply their knowledge and skills to design and sew their own bookmarks.</p>		<p><u>Structures: Making Boats</u></p> <p>Exploring what is meant by 'waterproof', 'floating' and 'sinking', pupils experiment and make predictions with various materials to carry out a series of tests. They learn about the different features of boats and ships before investigating their shape and structures to build their own.</p>
		<p>Objective details:</p> <p>L1: To explore and investigate the tools and materials in the junk modelling area.</p> <p>L2: To investigate cutting different materials.</p> <p>L3: To learn how to plan and select the correct resources needed to make a model.</p> <p>L4: To verbally plan and create a junk model.</p> <p>L5: To share a finished model and talk about the processes in its creation.</p>		<p>Objective details:</p> <p>L1: To develop Threading and weaving skills.</p> <p>L2. Paper weaving.</p> <p>L3. To practise and apply threading skills with specific materials. Eg. Hessian and wool.</p> <p>L4. To use threading or sewing to design a bookmark.</p> <p>L5. To create their bookmarks following their own design.</p> <p>L6. To reflect with children on how they have achieved their aims.</p>		<p>Objective details:</p> <p>L1: To understand what waterproof means and to test whether materials are waterproof.</p> <p>L2: To test and make prediction for which materials float or sink.</p> <p>L3. To compare the uses of boats.</p> <p>L4. To investigate how the shape and structure of boats affects the way they moves.</p> <p>L5. To design a boat.</p> <p>L6. To create a boat based upon their design</p>

Year 1		<p>Structures: Constructing windmills</p> <p>Designing, decorating and building a windmill for their mouse client to live in, developing an understanding of different types of windmill, how they work and their key features.</p>		<p>Textiles / Puppets</p> <p>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, glueing, stapling</p>	<p>Cooking Food: Fruit and vegetables</p> <p>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.</p>
Objectives		<p>Objective details:</p> <p>L1: To include individual preferences and requirements in my design.</p> <p>L2: To make a stable structure.</p> <p>L3: Assembling the components of my structure.</p> <p>L4: To test and evaluate my project and adapt.</p>		<p>Objective details:</p> <p>L1: To join fabrics together using different methods.</p> <p>L2: To use a template to create my design.</p> <p>L3: To join two fabrics together accurately.</p> <p>L4: To embellish my design using joining methods.</p>	<p>Objective details:</p> <p>L1: To identify if a food is a fruit or a vegetable</p> <p>L2: To identify where plants grow and which parts we eat</p> <p>L3: To taste and compare fruit and vegetables</p> <p>L4: To make a fruit and vegetable smoothie.</p>
Year 2		<p>Structures – Baby Bear’s chair</p> <p>Using the tale of Goldilocks and the Three Bears as inspiration, children help Baby Bear by making him a brand-new chair.</p>		<p>Mechanisms – Fairground ride</p> <p>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</p>	<p>Mechanisms: making a moving monster</p> <p>After learning the terms; pivot, lever and linkage, children design a monster which will move using a linkage mechanism.</p>
Objectives		<p>Objective details:</p> <p>L1: To explore the concept and features of structures and the stability of different shapes</p> <p>L2: To understand that the shape of the structure affects its strength.</p> <p>L3: To make a structure according to design criteria.</p> <p>L4: To produce a finished structure and evaluate its strength, stiffness and stability.</p>		<p>Objective details:</p> <p>L1: To explore wheel mechanisms and design a Ferris wheel.</p> <p>L2: To select appropriate materials.</p> <p>L3: To build and test a moving wheel.</p> <p>L4: To make and evaluate a structure with a rotating wheel.</p>	<p>Objective details:</p> <p>L1: To look at objects and understand how they move.</p> <p>L2: To look at objects and understand how they move.</p> <p>L3: To explore different design options.</p> <p>L4: To make a moving monster.</p>

Year 3		<p><u>Food : Eating seasonally</u></p> <p>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.</p>		<p><u>Digital world : Electronics charm</u></p> <p>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.</p>		<p><u>Structures : constructing a castle</u></p> <p>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.</p>
Objectives		<p>Objective details:</p> <p>L1: To know that climate affects food growth</p> <p>L2: To understand the advantages of eating seasonal foods grown in the UK</p> <p>L3: To create a recipe that is healthy and nutritious using seasonal vegetables</p> <p>L4: To safely follow a recipe when cooking.</p>		<p>Objective details:</p> <p>L1: To understand the impact of the digital revolution in the world of (D&T) product design.</p> <p>L2: Programming an eCharm</p> <p>L3: To write a program to initiate a flashing LED panel after button press and/or automatically initiate using the Micro:bit light sensing, as part of an eCharm</p> <p>L4: To create and decorate a foam pouch for the eCharm, using a template</p> <p>L5: To design a display badge and/or stand using CAD (computer-aided design) software for an eCharm product.</p>		<p>Objective details:</p> <p>L1: to recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure.</p> <p>L 2: To design a castle.</p> <p>L3: To construct 3D nets.</p> <p>L4: To construct and evaluate my final product.</p>
Year 4		<p><u>Structures: Constructing Pavilions</u></p> <p>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.</p>		<p><u>Mechanical systems: Making a slingshot car.</u></p> <p>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.</p>		<p><u>Electrical systems ; Torches</u></p> <p>Applying their scientific understanding of electrical circuits, children create a torch, designing and evaluating their product against set design criteria.</p>
Objectives		<p>Objective details:</p> <p>L1: To create a range of different shaped frame</p> <p>L2: Designing a pavilion</p> <p>L3: To build a frame structure.</p> <p>L4: To add cladding to a frame structure.</p>		<p>Objective details:</p> <p>L1: To build a car chassis.</p> <p>L2: To design a shape that reduces air resistance.</p> <p>L3: To make a model based on a chosen design.</p> <p>L4: To assemble and test my completed product.</p>		<p>Objective details:</p> <p>L1: To learn about electrical items and how they work.</p> <p>L2: To analyse and evaluate electrical products.</p> <p>L3: To design a product to fit a set of specific user needs.</p> <p>L4: To make and evaluate a torch.</p>

Year 5		<p><u>Electrical systems: Doodlers</u></p> <p>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.</p>		<p><u>Mechanical systems ; making a pop up book</u></p> <p>Creating a four-page pop-up storybook design incorporating a range of mechanisms and decorative features, including: structures, levers, sliders, layers and spacers.</p>	<p><u>Food ; What could be healthier?</u></p> <p>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.</p>
Objectives		<p>Objective details:</p> <p>L1: To understand how motors are used in electrical products.</p> <p>L2: To investigate an existing product to determine the factors that affect the product's form and function.</p> <p>L3: To apply the findings from research to develop a unique product.</p> <p>L4: To develop a DIY kit for another individual to assemble their product.</p>		<p>Objective details:</p> <p>L1: To design a pop-up book.</p> <p>L2: To follow my design brief to make my pop up book.</p> <p>L3: To use layers and spacers to cover the working of mechanisms.</p> <p>L4: To create a high-quality product suitable for a target user.</p>	<p>Objective details;</p> <p>L1: To understand where food comes from</p> <p>L2: What does healthy look like?</p> <p>L3: Adapting and improving a recipe</p> <p>L4: To complete a food product (bolognese)</p>
Year 6		<p><u>Textiles: waistcoats</u></p> <p>Selecting suitable fabrics, using templates, pinning, decorating and stitching to create a waistcoat for a person or purpose of their choice.</p>		<p><u>Structure; Playgrounds</u></p> <p>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.</p>	<p><u>Digital World ; Navigating the world.</u></p> <p>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.</p>
Objectives		<p>Objective details:</p> <p>L1: To design a waistcoat.</p> <p>L2: To mark and cut fabric according to a design.</p> <p>L3: Assembling my waistcoat</p> <p>L4: Decorating my waistcoat</p>		<p>Objective details:</p> <p>L1: To design a playground with a variety of</p> <p>L2: To build a range of structures.</p> <p>L3: To improve and add detail to structures.</p> <p>L4: To create a surrounding landscape.</p>	<p>Objective details:</p> <p>L1: To write a design brief and criteria based on a client request.</p> <p>L2: To write a program to include multiple functions as part of a navigation device.</p> <p>L3: To develop a sustainable product concept.</p>

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