



**Long term plan –DT -End points**



	FS1	FS2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn 1	<p>Explores and uses a range of materials. Begins to join materials together.</p> <p>Talks about what they have created. Shows pride in their creations. Holds scissors correctly and opens and closes blades. Snips paper independently. Cuts paper, moving forwards, with an adult helping to guide the paper. Makes simple representations of</p>	<p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>Share their creations, explaining the process they have used.</p> <p>Use a range of small tools, including scissors, paint brushes and cutlery.</p>	<p><b>Cooking and nutrition</b> Know the difference between fruits and vegetables and that some foods typically known as vegetables are actually fruits</p> <p>To know that a blender is a machine which mixes ingredients together into a smooth liquid</p> <p>To know that fruits grow on trees or vines and that vegetables can grow above or below ground.</p> <p>To know that vegetables can come from different parts of the plant.</p>	<p><b>Mechanisms</b> To understand that different materials have different properties and so are suitable for different uses.</p> <p>Know that mechanisms are multiple parts that work together to create movement and that there is always an input and output.</p> <p>Know that an input is energy whilst an output is the movement.</p> <p>Know that levers turn on pivots and that a linkage mechanism is made up of a series of levers.</p>	<p><b>Textiles</b> To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric</p> <p>To know that when two edges of fabric have been joined together it is called a seam</p> <p>To know that it is important to leave space on the fabric for the seam</p> <p>To know that some products are turned inside out after sewing so the stitching is hidden</p>	<p><b>Electrical systems</b> To learn about electrical items and how they work.</p> <p>To analyse and evaluate electrical products.</p> <p>To design a product to fit a set of specific user needs.</p> <p>To make and evaluate a torch.</p>	<p><b>Mechanical systems</b> To know that mechanisms control movement</p> <p>To know that mechanisms that can be used to change one kind of motion into another</p> <p>To know how to use sliders, pivots and folds to create paper-based mechanisms</p>	<p><b>Cooking and nutrition</b> To know that ‘flavour’ is how a food or drink tastes</p> <p>To know that many countries have ‘national dishes’ which are recipes associated with that country</p> <p>To know that ‘processed food’ means food that has been put through multiple changes in a factory</p> <p>To know that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides</p> <p>To know what happens to a certain food before it appears on the supermarket shelf</p>
Autumn 2	<p>events, people, animals and objects.</p>						<p><b>Electrical systems</b> To know how motors are used in electrical products.</p> <p>To know how to use data and gathered information to inform a product design.</p>	<p><b>Structures</b> To know that structures can be strengthened by manipulating materials and shapes</p>
Spring 1			<p><b>Wheels and axels</b> To know that wheels need to be round to rotate and move.</p> <p>To understand that for a wheel to move it must be attached to a rotating axle.</p> <p>To know that an axle moves within an axle holder which is fixed to the vehicle or toy.</p> <p>To know that the frame of a vehicle (chassis) needs to be balanced.</p> <p>To know some real-life items that use wheels.</p>	<p><b>Cooking and nutrition</b> To know that ‘diet’ means the food and drink that a person or animal usually eats and to understand what a balanced diet is.</p> <p>To know where to find the nutritional information on packaging and be aware that many products have hidden sugars.</p> <p>To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar – to be aware that a range of food types are required and roughly how much of each</p> <p>To know that nutrients are substances in food that all</p>	<p><b>Electrical systems</b> To know that batteries contain acid, which can be dangerous if they leak.</p> <p>To know the names of the components in a basic series circuit including a buzzer</p>	<p><b>Mechanical systems</b> To know that all moving things have kinetic energy</p> <p>To know that kinetic energy is the energy that something (object/person) has by being in motion.</p> <p>To know that air resistance is the level of drag on an object as it is forced through the air</p> <p>To know that the shape of a moving object will affect how it moves due to air resistance.</p>	<p><b>Cooking and nutrition</b> To know where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues</p> <p>To know that I can adapt a recipe to make it healthier by substituting ingredients</p> <p>To know that I can use a nutritional calculator to see how healthy a food option is</p> <p>To know that ‘cross-contamination’ means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</p>	<p><b>Textiles</b> To know that it is important to design clothing with the client/ target customer in mind</p> <p>To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric</p> <p>To know the importance of consistently sized stitches-waistcoats.</p>



				living things need to make energy, grow and develop				
Spring 2				To know that 'ingredients' means the items in a mixture or recipe				
Summer 1			<p><b>Textiles</b></p> <p>To know that 'joining technique' means connecting two pieces of material together</p> <p>To know that there are various temporary methods of joining fabric by using staples, glue or pins</p> <p>To know that different techniques for joining materials can be used for different purposes</p> <p>To know that a template (or fabric pattern) is used to cut out the same shape multiple times</p> <p>To know that drawing a design idea is useful to see how an idea will look</p>	<p><b>Structures</b></p> <p>To know that shapes and structures with wide, flat bases or legs are the most stable</p> <p>To understand that the shape of a structure affects its strength</p> <p>To know that materials can be manipulated to improve strength and stiffness</p> <p>To know that a structure is something which has been formed or made from parts.</p>	<p><b>Mechanical systems</b></p> <p>To know how pneumatic systems work</p> <p>To know that pneumatic systems can be used as part of a mechanism</p> <p>To know that pneumatic systems operate by drawing in, releasing and compressing air</p>	<p><b>Cooking and nutrition</b></p> <p>To know that the amount of an ingredient in a recipe is known as the 'quantity'</p> <p>To know that it is important to use oven gloves when removing hot food from an oven</p> <p>To know the following cooking techniques: sieving, creaming, rubbing method, cooling</p> <p>To know the importance of budgeting while planning ingredients for biscuits</p>	<p><b>Structures</b></p> <p>To know some different ways to reinforce structures</p> <p>To know how triangles can be used to reinforce bridges</p> <p>To know that properties are words that describe the form and function of materials</p> <p>To know why material selection is important based on their properties</p> <p>To know the material (functional and aesthetic) properties of wood</p>	<p><b>Electrical systems</b></p> <p>To know that 'form' means the shape and appearance of an object.</p> <p>To know the difference between 'form' and 'function'.</p> <p>To understand that 'fit for purpose' means that a product works how it should and is easy to use.</p> <p>To know that 'form over purpose' means that a product looks good but does not work very well.</p> <p>To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind.</p> <p>To understand the diagram perspectives 'top view', 'side view' and 'back'.</p>
Summer 2			<p><b>Structures</b></p> <p>Know that the shape of materials can be changed to improve the strength and stiffness of structures and that axles can make parts turn in a circle.</p> <p>Know that different structures are used for different purposes and have been made and put together.</p> <p><b>Mechanisms</b></p> <p>To know that a mechanism is parts of an</p>	<p><b>Textiles</b></p> <p>To know that sewing is a method of joining fabric</p> <p>To know that different stitches can be used when sewing</p> <p>To know the importance of tying a knot after sewing the final stitch</p> <p>To know that a thimble can be used to protect my fingers when sewing</p> <p><b>Mechanisms</b></p> <p>To know that different materials have different</p>	<p><b>Cooking and nutrition</b></p> <p>To know that not all fruits and vegetables can be grown in the UK as climate affects food growth and can depend upon the season.</p> <p>To know that cooking instructions are known as a 'recipe'</p> <p>To know that imported food is food which has been brought into the country and exported food has been sent to another country.</p> <p>To know that imported foods travel from far away and this</p>	<p><b>Structures</b></p> <p>To know what a frame structure is</p> <p>To know that a 'free-standing' structure is one which can stand on its own.</p> <p><b>Textiles</b></p> <p>To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and Velcro</p> <p>To know that different fastening types are useful for different purposes</p>	<p><b>Textiles</b></p> <p>To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric</p> <p>To understand that it is easier to finish simpler designs to a high standard</p> <p>To know that soft toys are often made by creating appendages separately and then attaching them to the main body</p> <p>To know that small, neat stitches which are pulled taut are important to ensure that</p>	<p><b>Mechanical systems</b></p> <p>To know that the mechanism in an automata uses a system of cams, axles and followers</p> <p>To know that different shaped cams produce different outputs.</p>



			<p>objects that move together.</p> <p>Know that sliders are mechanisms and how the movement can be restricted through the use of bridges and guides.</p> <p>Know that wheels need to be round to rotate and move</p> <p>Know that for a wheel to move it must be attached to a rotating axle which must be fixed to the frame (chassis) and the frame must be balanced.</p>	<p>properties and so are suitable for different uses.</p> <p>To know that mechanisms are multiple parts that work together to create movement and that there is always an input and output.</p> <p>To know that an input is energy whilst an output is the movement.</p> <p>To know that levers turn on pivots and that a linkage mechanism is made up of a series of levers.</p>	<p>can negatively impact the environment</p> <p>To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre which are important for energy, growth and health and that similar colour fruits/vegetables have similar benefits.</p> <p>To know safety rules for using, storing and cleaning a knife safely.</p> <p><b>Structures</b> To know that wide and flat based objects are more stable</p> <p>To know the importance of strength and stiffness in structures</p>	<p>To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions</p>	<p>the soft toy is strong and holds the stuffing securely</p>	
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