



Singleton Church of England Primary School

Progression of Skills and Knowledge

DT - Y1



	Year 1 –Cooking & Nutrition Fruit and vegetables	Year 1 – Mechanisms/Mechanical Systems Making a moving story book Wheels and axles	Year 1 – Structures Constructing a windmill	Year 1-Textiles Puppets
Previous unit and next unit	EYFS – Soup Year 2 – A balanced diet	No EYFS Y2 - Fairground wheel Y2 - Making a Moving Monster	EYFS- Boats Y2 – Baby Bears Chair	EYFS – Bookmarks Year 2- Pouches
KEY VOCABULARY	Blender, Carton, Fruit, Healthy, Ingredients, Peel, Peeler, Recipe, Slice, Smoothie, Stencil, Template, Vegetable	Moving Story book: Assemble, Design, Evaluation, Mechanism, Model, Sliders, Stencil, Target audience, Template, Test Wheels & Axels: Axle, Axle holder, Chassis, Design, Evaluation, Fix, Mechanic, Mechanism, Model, Test, Wheel	Client, Design, Evaluation, Net, Stable, Strong, Test, Weak, Windmill	Decorate, Design, Fabric, Glue, Model, Hand puppet Safety pin, Staple, Stencil, Template
SUBSTANTIVE KNOWLEDGE	Knowledge – Fruit and Veg <ul style="list-style-type: none"> To understand the difference between fruits and vegetables. To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber). To know that a blender is a machine which mixes ingredients together into a smooth liquid. To know that a fruit has seeds and a vegetable does not. To know that fruits grow on trees or vines. To know that vegetables can grow either above or below ground. To know that vegetables can come from different parts of the plant. 	Knowledge – Moving Story Book <ul style="list-style-type: none"> know that a mechanism is the parts of an object that move together. know that a slider mechanism moves an object from side to side. know that a slider mechanism has a slider, slots, guides and an object. know that bridges and guides are bits of card that purposefully restrict the movement of the slider. know that in Design and technology we call a plan a ‘design’. Knowledge – Wheels and axles <ul style="list-style-type: none"> To know that wheels need to be round to rotate and move. To understand that for a wheel to move it must be attached to a rotating axle. To know that an axle moves within an axle holder which is fixed to the vehicle or toy. To know that the frame of a vehicle (chassis) needs to be balanced To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles. 	Knowledge – Constructing a windmill <ul style="list-style-type: none"> To understand that the shape of materials can be changed to improve the strength and stiffness of structures. To understand that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses). To understand that axles are used in structures and mechanisms to make parts turn in a circle. To begin to understand that different structures are used for different purposes. To know that a structure is something that has been made and put together. Additional unit knowledge <ul style="list-style-type: none"> To know that a client is the person I am designing for. To know that design criteria is a list of points to ensure the product meets the client’s needs and wants. To know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity. To know that windmill turbines use wind to turn and make the machines inside work. To know that a windmill is a structure with sails that are moved by the wind. To know the three main parts of a windmill are the turbine, axle and structure 	Knowledge – Puppets <ul style="list-style-type: none"> To know that ‘joining technique’ means connecting two pieces of material together. To know that there are various temporary methods of joining fabric by using staples, glue or pins. To understand that different techniques for joining materials can be used for different purposes. To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. To know that drawing a design idea is useful to see how an idea will look.
MAKING CONNECTIONS Key knowledge / key questions	EYFS Recall-Soup <ul style="list-style-type: none"> To know that soup is ingredients (usually vegetables and liquid) blended together. To know that vegetables are grown. To recognise and name some common vegetables. To know that different vegetables taste different. To know that eating vegetables is good for us. To discuss why different packages might be used for different foods Cycle A/B This links to Year 2 A Balanced Diet <ul style="list-style-type: none"> To know that ‘diet’ means the food and drink that a person or animal usually eats. To understand what makes a balanced diet. To know where to find the nutritional information on packaging. To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar. To understand that I should eat a range of different foods from each food group, and roughly how much of each food group. To know that nutrients are substances in food that all living things need to make energy, grow and develop. To know that ‘ingredients’ means the items in a mixture or recipe. To know that I should only have a maximum of five teaspoons of sugar a day to stay healthy. 	EYFS- no previous Cycle A/B This links to Year 2 Fairground wheel & Making a moving Monster Knowledge – Technical – Fairground wheel <ul style="list-style-type: none"> To know that different materials have different properties and are therefore suitable for different uses. Knowledge – Additional <ul style="list-style-type: none"> To know the features of a Ferris wheel, include the wheel, frame, pods, a base an axle and an axle holder. To know that it is important to test my design as I go along so that I can solve any problems that may occur Knowledge – Technical - Making a Moving Monster <ul style="list-style-type: none"> To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. To know that there is always an input and output in a mechanism. To know that an input is the energy that is used to start something working. To know that an output is the movement that happens as a result of the input. To know that a lever is something that turns on a pivot. To know that a linkage mechanism is made up of a series of levers Knowledge – Additional <ul style="list-style-type: none"> To know some real-life objects that contain mechanisms. 	EYFS Recall-Boats <ul style="list-style-type: none"> To know that ‘waterproof’ materials are those which do not absorb water To know that some objects float and others sink. To know the different parts of a boat. Cycle A/B This links to Year 2 Baby Bears chair Knowledge – Technical – Baby Bears Chair <ul style="list-style-type: none"> To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength. To know that materials can be manipulated to improve strength and stiffness. To know that a structure is something which has been formed or made from parts. To know that a ‘stable’ structure is one which is firmly fixed and unlikely to change or move. To know that a ‘strong’ structure is one which does not break easily. To know that a ‘stiff’ structure or material is one which does not bend easily Knowledge – Additional <ul style="list-style-type: none"> To know that natural structures are those found in nature. To know that man-made structures are those made by people.	EYFS Recall-Bookmarks <ul style="list-style-type: none"> To know that a design is a way of planning our idea before we start. To know that threading is putting one material through an object Cycle A/B This links to Year 2 Pouches Knowledge – Technical – Pouches <ul style="list-style-type: none"> To know that sewing is a method of joining fabric. To know that different stitches can be used when sewing. To understand the importance of tying a knot after sewing the final stitch. To know that a thimble can be used to protect my fingers when sewing

	<ul style="list-style-type: none"> To know that many foods and drinks we do not expect to contain sugar do; we call these 'hidden sugars'. 			
Key Skills	<p>Design:</p> <ul style="list-style-type: none"> Designing smoothie carton packaging by-hand or on ICT software. <p>Make:</p> <ul style="list-style-type: none"> Chopping plasticine safely. Chopping vegetables with support <p>Evaluate:</p> <ul style="list-style-type: none"> Tasting the soup and giving opinions. Describing some of the following when tasting food: look, feel, smell and taste. Choosing their favourite packaging design and explaining why. 	<p>Making a moving story book;</p> <p>Design:</p> <ul style="list-style-type: none"> Explaining how to adapt mechanisms, using bridges or guides to control the movement. Designing a moving story book for a given audience. <p>Make:</p> <ul style="list-style-type: none"> Following a design to create moving models that use levers and sliders. <p>Evaluate:</p> <ul style="list-style-type: none"> Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed. Reviewing the success of a product by testing it with its intended audience. <p>Wheels & Axels</p> <p>Design:</p> <ul style="list-style-type: none"> Designing a vehicle that includes wheels, axles and axle holders, that when combined, will allow the wheels to move. Creating clearly labelled drawings that illustrate movement. <p>Make:</p> <ul style="list-style-type: none"> Adapting mechanisms, when: they do not work as they should. to fit their vehicle design.to improve how they work after testing their vehicle. <p>Evaluate:</p> <ul style="list-style-type: none"> Testing wheel and axle mechanisms, identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move. 	<p>Design:</p> <ul style="list-style-type: none"> Learning the importance of a clear design criteria. Including individual preferences and requirements in a design <p>Make:</p> <ul style="list-style-type: none"> Making stable structures from card, tape and glue. Learning how to turn 2D nets into 3D structures. Following instructions to cut and assemble the supporting structure of a windmill. Making functioning turbines and axles which are assembled into a main supporting structure. <p>Evaluate:</p> <ul style="list-style-type: none"> Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. Suggest points for improvements. 	<p>Design:</p> <ul style="list-style-type: none"> Using a template to create a design for a puppet. <p>Make:</p> <ul style="list-style-type: none"> Cutting fabric neatly with scissors Using joining methods to decorate a puppet. Sequencing steps for construction. <p>Evaluate:</p> <ul style="list-style-type: none"> Reflecting on a finished product, explaining likes and dislikes.
Key Assessment Opportunity	<p>Key Assessment Opportunity-lesson 4</p> <p>Application - Making the smoothie – showing an understanding of the skills and knowledge from previous lessons</p>	<p>Key Assessment Opportunity</p> <p>Assessment Task Week 3/ 4 – Outcome of the finished moving story book The assessment comes in week 3/ 4 – construction, testing and evaluation</p>	<p>Key Assessment Opportunity</p> <p>Application - Structures – application making a windmill that fits a design brief The assessment comes in week 3/ 4- Assembling the windmill / testing and evaluating the windmill</p>	<p>Key Assessment Opportunity</p> <p>Application - Textiles – application making a puppet The assessment comes in week 3/ 4 – Focusing on making and joining the puppet and decorating the puppet</p>