



Portway Infant School

Progression of skills

Subject: Design & Technology				
Structures				
		FS2	Year 1	Year 2
		Junk Modelling Me and my Community	Constructing a Windmill Childhood	
Skills	Design	• Making verbal plans and material choices. • Developing a junk model.	• Learning the importance of a clear design criteria. • Including individual preferences and requirements in a design.	
	Make	• Improving fine motor/scissor skills with a variety of materials. • Joining materials in a variety of ways (temporary and permanent). • Joining different materials together. • Describing their junk model, and how they intend to put it together.	• 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.	
	Evaluate	• Giving a verbal evaluation of their own and others' junk models with adult support. • Checking to see if their model matches their plan. • Considering what they would do differently if they were to do it again. • Describing their favourite and least favourite part of their model.	• 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.	

Knowledge	Technical	• To know there are a range to different materials that can be used to make a model and that they are all slightly different. • Making simple suggestions to fix their junk model.	• 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		• 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.	
Vocabulary		join, stick, cut, bend, slot, scissors, measure, materials, fix	Axle, bridge, design, design criteria, model, net, packaging, structure, template, unstable, stable, strong, weak, client, evaluation, test, windmill	

Mechanisms/Mechanical Structures

		FS2	Year 1	Year 2
			Making a Moving Picture Bright Lights, Big City	Wheels & axles Street Detectives
Skills	Design		- Explaining how to adapt mechanisms, using bridges or guides to control the movement. - Designing a moving picture.	- 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.
	Make		Following a design to create moving models that use levers and sliders.	- Adapting mechanisms, when: - they do not work as they should. - to fit their vehicle design. - to improve how they work after testing their vehicle.
	Evaluate		Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.	Testing wheel and axle mechanisms, identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move.
Knowledge	Technical		- To know that a mechanism is the parts of an object that move together. - To know that a slider mechanism moves an object from side to side. - To know that a slider mechanism has a slider, slots, guides and an object. - To know that bridges and guides are bits of card that purposefully restrict the movement of the slider.	- 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.
	Additional		- To know that in Design and technology we call a plan a 'design.' - To know some real-life objects that contain mechanisms.	- To know some real-life items that use wheels such as wheelbarrows, hamster wheels and vehicles. - To know that it is important to test my design as I go along so that I can solve any problems that may occur.
Vocabulary			Sliders, levers, mechanism, adapt, design criteria, model, template, assemble, test, evaluation	Axle, axle holder, chassis, diagram, dowel, equipment, mechanism, wheel, design, evaluation, fix, mechanic, model, test

Cooking & Nutrition

		FS2	Year 1	Year 2
		Soup Starry Night	Fruit and Vegetables Superheroes	A Balanced Diet Scented Garden
Skills	Design	• Designing a soup recipe as a class. • Designing soup packaging.	• Designing smoothie carton packaging by-hand or on ICT software.	• Designing a healthy wrap based on a food combination which work well together.
	Make	• Chopping plasticine safely. • Chopping vegetables with support.	• Chopping fruit and vegetables safely to make a smoothie.	• Slicing food safely using the bridge or claw grip. • Constructing a wrap that meets a design brief.
	Evaluate	• 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.	• Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging.	• Describing the taste, texture and smell of fruit and vegetables. • Taste testing food combinations and final products. • Describing the information that should be included on a label. • Evaluating which grip was most effective.
Knowledge		• 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.	• Understanding 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 (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber).	• 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. • To know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.

Vocabulary	Fruit, vegetables, safety, knife, blade, tool, edge, handle, chop, slice, cut, saucepan, blender, chopping board, hob, boil, blend, mix, packaging, recyclable, metal, plastic, reusable	Blender, carton, fruit, healthy, ingredients, peel, peeler, recipe, slice, smoothie, stencil, template, vegetable	balanced diet, balance, carbohydrate, dairy, fruit, ingredients, oils, sugar, protein, vegetable design criteria, evaluation, healthy, nutrients, packaging, refrigerator, substitute
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Textiles				
		FS2	Year 1	Year 2
		Bookmarks On the Beach		Pirate Pouch Land Ahoy
Skills	Design	• Discussing what a good design needs. • Designing a simple pattern with paper. • Designing a bookmark. • Choosing from available materials.		• Designing a pouch.
	Make	• Developing fine motor/cutting skills with scissors. • Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. • Using a prepared needle and wool to practise threading.		• Selecting and cutting fabrics for sewing. • Decorating a pouch using fabric glue or running stitch. • Threading a needle. • Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. • Neatly pinning and cutting fabric using a template.
	Evaluate	• Reflecting on a finished product and comparing to their design.		• Troubleshooting scenarios posed by teacher. • Evaluating the quality of the stitching on others' work. • Discussing as a class, the success of their stitching against the success criteria. • Identifying aspects of their peers' work that they particularly like and why.
Knowledge		• 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.		• 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.
Vocabulary		thread, weave, pattern, sew, sewing needle, embroider, design, evaluate		Decorate, fabric, fabric glue, knot, needle, needle threader, running stitch, sew, template thread, accurate, pouch, shape, stencil, thimble

Words highlighted in blue represent where/which topic these skills are covered within.

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