Design and Technology Progression of Skills Mixed Aged Year 1 and 2

CYCLE A		Autumn 2 **Mechanisms - Making a book**	Spring 2 **Structures - Baby Bear's Chair** (3 weeks) **Food and Nutrition – making a wrap (**3 weeks)	Summer 2 **Textiles - puppets**
Skills	**Design**	Explaining how to adapt mechanisms, using bridges or guides to control the movement. • Designing a moving story book for a given audience.	• Generating and communicating ideas using sketching and modelling. • Learning about different types of structures, found in the natural world and in everyday objects. **Food and Nutrition:** • Designing three wrap ideas based on a food combination which work well together.	• Using a template to create a design for a puppet.
	Make	• Following a design to create moving models that use levers and sliders	• Making a structure according to design criteria. • Creating joints and structures from paper/card and tape. • Building a strong and stiff structure by folding paper. **Food and Nutrition:** • Chopping foods safely to make a wrap. • Constructing a wrap that meets a design brief. • Grating foods to make a wrap. • Snipping smaller foods instead of cutting.	• Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing the steps taken during construction.
	Evaluation	• 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.	• Exploring the features of structures. • Comparing the stability of different shapes. • Testing the strength of own structures. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of own structure. **Food and Nutrition:**	• Reflecting on a finished product, explaining likes and dislikes.

			• 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 food by giving a score.	
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 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 which does not bend easily. **Food and Nutrition:** • 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 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 'ingredients' means the items in a mixture or recipe.	• 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
	Additional	• To know that in Design and technology we call a plan a 'design'.	• To know that natural structures are those found in nature. • To know that man-made structures are those made by people.	

CYCLE B		**Autumn 2** **Textiles – making a pouch**	**Spring 2** **Structures – Making a windmill** **Food and Nutrition – making a smoothie**	**Summer 2** **Mechanisms –** **wheels and axles - making a vehicle**
Skills	**Make**	• Designing a pouch.	• Learning the importance of a clear design criteria. • Including individual preferences and requirements in a design. **Food and Nutrition**: • Designing smoothie carton packaging by-hand.	• 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.
	Design	• 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.	• Making stable structures from card. • 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. • Finding the middle of an object. • Puncturing holes. • Adding weight to structures. • Creating supporting structures. • Cutting evenly and carefully. **Food and Nutrition** • Chopping fruit and vegetables safely to make a smoothie. • Juicing fruits safely to make a smoothie.	• 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	• Troubleshooting scenarios posed by the teacher. • Evaluating the quality of the stitching on others' work. • Discussing as a class the success of their stitching against the success criteria.	• 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.	• Testing wheel and axle mechanisms, identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move.

		• Identifying aspects of their peers' work that they particularly like and explaining why.	**Food and Nutrition:** • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging. • Comparing their own smoothie with someone else's.	
Knowledge	**Technical**	• 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.	• 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. • To know that the sails or blades of a windmill are moved by the wind. • To know that a structure is something built for a reason. • To know that stable structures do not topple. • To know that adding weight to the base of a structure can make it more stable. **Food and Nutrition:** • To know that a blender is a machine which mixes ingredients together into a smooth liquid. • To know that a fruit has seeds. • To know that fruits grow on trees or vines. • To know that vegetables can grow either above or below ground. • To know that vegetables is any edible part of a plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber)	• 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 design criteria is a list of points to ensure the product meets the clients needs and wants.	• To know some real-life items that use wheels such

			• 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. • To know that windmills are used to generate power and were used for grinding flour.	as wheelbarrows, hamster wheels and vehicles.