DESIGN & TECHNOLOGY Progression

The National Curriculum for Design and Technology is organised through the following four strands: Design, Make, Evaluate and Technical Knowledge. We use Kapow to support our Design and Technology curriculum. The Kapow curriculum reflects each of the National Curriculum strands through the following key areas: Structures, Mechanisms/Mechanical systems, Cooking and Nutrition and finally Textiles. The table below shows how the Kapow curriculum and our strands achieve this:

STRUCTURES

	EYFS	Year 1 structures -pencil pots	Year 2 structures – baby bear's chair
	Knowledge		
Technical	• To know there are a range of different materials that can be used to make a model and that they are all slightly different.	• Recognising that different structures are used for different purposes. • Exploring the features of structures. • Describing structures as buildings or freestanding structures. • Making stable structures from card. • Creating supporting structures to aid stability. • Using stable objects like cylinders to create structures.	• 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
Additional	• To create collaboratively, sharing ideas, resources and skills. • To explain what I am making and which materials I am using	• To know that the 'user' is the person who will use the product. • To know that different users may want different things from a design. • To know that who they are designing for makes a difference to what they design.	• To know that natural structures are those found in nature. • To know that man-made structures are those made by people.

	• To select materials to meet simple design criteria (e.g. shiny)	• To know that the purpose is what something is for. • To know that existing products can help when deciding what to design. • To know that drawings are a way to explain ideas. • To know that a plan is deciding what to do first and next. • To know that different equipment does different things. • To know the names of common pieces of equipment. • To know that some products will be better than others. • To know that their ideas or products can be made better. • To know that their ideas can makes someone else's work better	
	Skills: So that they can:		
Design	• To explain what I am making and which materials I am using • To select materials to meet simple design criteria (e.g. shiny) ‘	• Thinking about what others might want from a design. • Beginning to recognise how products and designs in the world around us solve certain needs. • Considering who they are designing for – identifying the user. • Stating what they intend to make and why – identifying the purpose. • Talking about ideas, with purpose and user in mind. • Talking about existing products when generating ideas.	• Generating and communicating ideas using sketching and modelling. • Learning about different types of structures, found in the natural world and in everyday objects.

		• Using basic drawing skills to communicate ideas.	
Make	• To create collaboratively, sharing ideas, resources and skills. • To join two items together e.g. with glue or tape. • To select and name the tools I will need (e.g. glue, scissors) • To explain what I am making and which materials I am using • To select materials to meet simple design criteria (e.g. shiny) • To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • To join two items together e.g. with glue or tape. I can think about whether it is temporary or permanent. • To use improving fine motor/scissor skills with a variety of materials.	• Choosing between a small number of materials, ingredients or components. • Explaining their choices based on personal experiences. • Requesting equipment appropriate to the purpose. (e.g. scissors for cutting, glue for joining) • Beginning to use objects with a fixed width or length to create even spacing of markings or cuts (e.g. a lolly stick). • Refining their grip to cut competently and confidently. • Cutting straight lines and evenly spaced lines. • Beginning to cut large shapes and thicker materials like card	• 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.
Evaluate	• To simply talk about changes I made during the making process	• Discussing existing products, saying what they like about them.	• Exploring the features of structures. • Comparing the stability of different shapes.

	• To explain how my product works • To share their creations, explaining the process they have used. • To talk about what I like or dislike about my construction, and begin to say why • To make simple suggestions to fix a junk model.	• Comparing two products and discuss which is better for a specific purpose. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.	• Testing the strength of own structures. • Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of own structure.

MECHANISMS/MECHANICAL SYSTEMS

	EYFS/yr 1	**Year 2 – Fairground wheel**	**Year 2 – Moving monsters**
	Knowledge		
Technical	• To explore cause and effect toys e.g. pop-up pirate, water wheels, moving parts, construction, large scale construction outside	• To know everyday objects have mechanisms. • To know many things that move have parts inside to help them work. • To know mechanisms usually limit unwanted movement. • To know everyday objects utilise wheels and axles. • To know wheels must be able to turn to work effectively. To know axles allow wheels to turn without falling off.	• 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

Additional		To know the features of a fairground wheel include the wheel, frame, pods, a base an axle and an axle holder.	• To know some real-life objects that contain mechanisms
	Skills: so that they can:		
Design		• Conducting simple surveys or discussions to gather opinions on what others need or like in a design. • Knowing that a survey is used to find out what people like. • Using a simple design brief that outlines the intended use, target user, and key features of the product, to create simple design criteria. • Knowing that a design brief helps to decide what to make. • Knowing that design criteria are the steps for making a product successful. • Creating ideas with design criteria in mind. • Referring to specific parts of existing products when generating ideas. • Knowing that the design criteria help when thinking of ideas. • Using labels to explain parts of a design, label materials, etc. • Using labels to explain parts of a design, label materials, etc. • Knowing that drawings can help explain how something works.	• Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria.

		• Knowing that a label explains part of a drawing.	
Make		• Choosing materials, ingredients or components from a wider range of materials, ingredients or components. • Explaining their choices based on the properties of materials and components. • Knowing some properties of materials like hard, soft, flexible, waterproof, strong etc. • Following and recalling simple safety instructions. • Knowing that some tools are sharp like scissors and knives. • Choosing known geometric shapes when making. • Beginning to shape objects to improve how they work. • Knowing the names of some geometric shapes: triangle, pyramid, square, cube, circle, sphere. • Considering balance in their finishing, like evenly spaced decoration.	• Making linkages using card for levers and split pins for pivots. • Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. • Cutting and assembling components neatly
Evaluate		• Discussing a range of existing products and saying what they like and dislike about them. • Evaluating existing products against design criteria.	• Evaluating own designs against design criteria. • Using peer feedback to modify a final design.

		• Evaluating their ideas and creations against simple design criteria. • Knowing that design criteria help to decide if their product is a success. • Suggesting improvements to their peers' designs and products. • Knowing that improve means to make something better. • Knowing that their suggestions can improve someone else's work	

COOKING AND NUTRITION

	EYFS	Year 1 Cooking and nutrition - smoothies	Year 2
	Knowledge		
	Growing plants e.g. daffodils, sweet peas, sunflowers, potatoes.	• 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 is any edible part of a plant.	
	Skills: So that they can:		

Design		• Designing smoothie carton packaging by-hand. • Learning where and how fruits and vegetables grow.	
Make		• Chopping fruit and vegetables safely to make a smoothie. • Juicing fruits safely to make a smoothie. • Identifying if a food is a fruit.	
Evaluate		• 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.	

TEXTILES

	EYFS	**Year 1 Textiles – simple stitches**	**Year 2**
	Knowledge		
	•	• Discussing fabric properties. • Threading large needles. • Rehearsing sewing techniques with large needles and thick thread, like wool.	

		• Sewing a running stitch in large-weave embroidery fabric or hessian. • Creating patterns and following them with stitching. • Spacing stitches evenly.	
	Skills: So that they can:		
Design		• Stating what they intend to make and why – identifying the purpose. • Talking about ideas, with purpose and user in mind. • Using basic drawing skills to communicate ideas.	
Make	In EYFS (Reception), the children may have learnt to: • Weave paper and other materials. • Thread large plastic needles. • Make colour patterns with weaving.	• Choosing between a small number of materials, ingredients or components. • Explaining their choices based on personal experiences. • Explaining in simple terms why certain tools must be handled carefully. • Following and recalling simple safety instructions. • Using a straightedge to draw a straight line. • Beginning to use objects with a fixed width or length to create even spacing of markings or cuts (e.g. a lolly stick). • Using a large plastic needle and large-weave embroidery fabric to begin to create a running stitch.	•

		• Applying masking tape to fix something in place or join to edges. • Adding texture to create visual interest.	
Evaluate		• Saying what they like about their peers' designs and products. • Accepting feedback and under-standing it is meant to improve their work.	• .