KEY STAGE ONE

Design And Technology

	TOPIC	National Curriculum	Knowledge *What do we want the children to know? Personalised to our topics/local area*	Vocabulary	Resources:
Year A	**Fruit and Vegetables**	Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.	Handle and explore fruits and vegetables and learn how to identify which category they fall into, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging. 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	Blender, Carton, Fruit, Healthy, Ingredients, Peel, Peeler, Recipe, Slice, Smoothie, Stencil, Template, Vegetable	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/fruit-and-vegetables/
	Making a Moving Storybook	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.	Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it. • 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 in Design and technology we call a plan a ‘design’	Assemble, Design, Design Criteria, Evaluation, Mechanism, Model, Sliders, Stencil, Target Audience, template, Test	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/mechanisms-making-a-moving-story-book/
	Constructing a Windmill	Build structures such as windmills and chairs, exploring how they can be made	Design, decorate and build a windmill for a mouse (client) to live in, develop an understanding of different types of windmill, how	Client, Design, Design Criteria,	https://www.kapowprimary.com/

		stronger, stiffer and more stable. Recognise areas of weakness through trial and error.	they work and their key features. Look at real existing examples and the functions that they carry out. 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 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 clients 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	Evaluation, Net, Stable, Strong, Structure, Test, Windmill Structure, Weak, Windmill, Windmill Turbine, Windmill Axel	subjects/design-technology/key-stage-1/year-1/ks1-y1-design-and-technology-constructing-windmills/
	Textiles: Puppets	Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.	Explore different ways of joining fabrics before creating hand puppets based upon characters from a well-known fairytale. Develop technical skills of cutting, glueing, stapling and pinning. 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	Decorate, Design, Fabric, Glue, Model, Hand Puppet, Safety Pin, Stencil, Technique, Template	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/textiles-puppets/
	Axels and Wheels	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar	Learn about the main components of a wheeled vehicle. Develop understanding of how wheels, axles and axle holders work; problem-solve why wheels won't rotate; to design and build their	Accurate, Axel, Axel Holder, Chassis, Design, Fix, Mechanic, Mechanism, Model,	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-1/

		products.	own vehicle designs. 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	Test, Wheel	mechanisms-wheels-and-axles/
Year B	**Fairground Wheel**	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.	Design and create a functional Ferris wheels, consider how the different components fit together so that the wheels rotate and the structure stands freely. Select appropriate materials and develop their cutting and joining skills. To know that different materials have different properties and are therefore suitable for different uses 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	Axel, Decorate, Evaluate, Ferris Wheel, Mechanism, Stable, Strong, Test,Waterproof, Weak	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/mechanisms-fairground-wheel/
	A Balanced Diet	Learn about the basic rules of a healthy and varied diet to create dishes. Understand where food comes from, for example plants and animals.	Explore and learn what forms a balanced diet, pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy. 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	Alternative, Diet, Balanced, Evaluate, Expensive, Healthy, Ingredients, Nutrients, Packaging, Refrigerator, Sugar	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/food-a-balanced-diet/

			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'		
	Making a Moving Monster	Introduce and explore simple mechanisms, such as sliders, wheels and axles in their designs. Recognise where mechanisms such as these exist in toys and other familiar products.	After learning the terms: pivot, lever and linkage, pupils design a monster that will move using a linkage mechanism. Pupils practise making linkages and experiment with various materials to bring their monsters to life. 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 To know some real-life objects that contain mechanisms	Design Criteria, Evaluate, Input, Linkage, Mechanical, Mechanism, Output, Pivot, Survey	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/mechanisms-making-a-moving-monster/
	Baby Bear's Chair	Build structures such as windmills and chairs, exploring how they can be made stronger, stiffer and more stable. Recognise areas of weakness through trial and error.	Using the tale of Goldilocks and the Three Bears as inspiration, pupils help Baby Bear by making him a brand new chair, exploring different shapes and materials. When designing the chair, they consider his needs and what he likes. 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 To know that natural structures are those found in nature • To know that man-made structures are those made by people	Function, Man-made, Mould, Natural, Stiff, Strong, Structure, Test, Weak	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/structures-baby-bears-chair/

	Pouches	Explore different methods of joining fabrics and experiment to determine the pros and cons of each technique.	Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch. 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	Accurate, Fabric, Knot, Pouch, Running-stitch, Sew, Shape, Template, Thimble	https://www.kapowprimary.com/subjects/design-technology/key-stage-1/year-2/textiles-pouches/