



Compassion, Joy, Perseverance, Respect
'Live life in all its fullness' John 10:10

Progression of Knowledge in Design Technology

Topics			
Devas	Bannerman	Porteous	Borton
Textiles - Making Stockings	Cycle A Construct a Windmill	Cycle A Construct a Castle	Cycle A Bridges
Mechanisms – Moving Pictures	Wheels and Axles	Pneumatic Toys	Automata Toys
Food – Fruit Aliens	Fruit and Vegetables	Eating Seasonally	What Could Be Healthier?
	Cycle B Making a Puppet	Cycle B Making a cushion	Cycle B Stuffed Toys
	Making a Monster	Making a Pop-Up book with Moving Parts	Make a Steady Hand Game
	A Balanced Diet	Adapting a Recipe	Come Dine With Me



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Technical Knowledge						
Devas	Bannerman		Porteous		Borton	
<p>40-60+ months</p> <p>I know there are a range to different materials that can be used to make a product and that they are all slightly different.</p> <p>I know some simple suggestions that could fix my product.</p> <p>I know a mechanism is the part of an object that moves together.</p> <p>I know a slider mechanism moves an object side to side.</p> <p>ELG Communication and Language; Listening, Attention and Understanding</p> <ul style="list-style-type: none"> - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions - Make comments about what they have heard and ask questions to clarify their understanding 	<p>Cycle A</p> <p>I know that the shape of materials can be changed to improve the strength and stiffness of structures.</p> <p>I know that cylinders are a strong type of structure.</p> <p>I know that axles are used in structures and mechanisms to make parts turn in a circle.</p> <p>I am beginning to know that different structures are used for different purposes.</p> <p>I know that a structure is something that has been made and put together.</p> <p>I know that wheels need to be round to rotate and move.</p> <p>I know that for a wheel to move it must be attached to a rotating axle.</p> <p>I know that an axle moves within an axle holder which is fixed to the vehicle or toy.</p> <p>I know that the frame of a vehicle (chassis) needs to be balanced.</p>	<p>Cycle B</p> <p>I know that mechanisms are a collection of moving parts that work together as a machine to produce movement.</p> <p>I know that there is always an input and output in a mechanism.</p> <p>I know that an input is the energy that is used to start something working.</p> <p>I know that an output is the movement that happens as a result of the input.</p> <p>I know that a lever is something that turns on a pivot.</p> <p>I know that a linkage mechanism is made up of a series of levers</p>	<p>Cycle A</p> <p>I know that wide and flat based objects are more stable.</p> <p>I know the importance of strength and stiffness in structures.</p> <p>I know how pneumatic systems work.</p> <p>I know that pneumatic systems can be used as part of a mechanism.</p> <p>I know that pneumatic systems operate by drawing in, releasing and compressing air.</p>	<p>Cycle B</p> <p>I know that mechanisms control movement.</p> <p>I know that a slider mechanism moves an object from side to side and has a slider, slots, guides and an object.</p> <p>I know that bridges and guides are bits of card that purposefully restrict the movement of the slider.</p> <p>I know how to use sliders, pivots and folds to create paper-based mechanisms.</p>	<p>Cycle A</p> <p>I know that structures can be strengthened by manipulating materials and shapes</p> <p>I know that the mechanism in an automata uses a system of cams, axles and followers.</p> <p>I know that different shaped cams produce different outputs.</p>	<p>Cycle B</p> <p>I know that batteries contain acid, which can be dangerous if they leak.</p> <p>I know the names of the components in a basic series circuit, including a buzzer.</p>



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Cooking and Nutrition

Devas	Bannerman		Porteous		Borton	
<p>40-60+ months</p> <p>I know the difference between fruits and vegetables.</p> <p>I know fruits grow on trees or vines.</p> <p>I know vegetables can grow above or below the ground.</p> <p>I know names of some common fruits.</p> <p>I know that different fruits taste different.</p> <p>I know that a fruit has seeds.</p> <p>I know that eating fruit is good for me.</p> <p>I know that vegetables can come from different parts of the plant.</p> <p>I know why different packages might be used for different foods.</p> <p>ELG</p> <p>Communication and Language;</p> <p>Listening, Attention and Understanding</p> <ul style="list-style-type: none"> - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions - Make comments about what they have heard and ask questions to clarify their understanding <p>Managing Self</p> <ul style="list-style-type: none"> - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. 	<p>Cycle A</p> <p>I know the difference between fruits and vegetables.</p> <p>I know that some foods typically known as vegetables are actually fruits (e.g. cucumber).</p> <p>I know that a blender is a machine which mixes ingredients together into a smooth liquid.</p> <p>I know that a fruit has seeds and a vegetable does not.</p> <p>I know that fruits grow on trees or vines.</p> <p>I know that vegetables can grow either above or below ground.</p> <p>I know that vegetables can come from different parts of the plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber).</p>	<p>Cycle B</p> <p>I know that 'diet' means the food and drink that a person usually eats.</p> <p>I know where to find the nutritional information on packaging.</p> <p>I know that the five main food groups are: carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.</p> <p>I know that I should eat a range of different foods from each food group.</p> <p>I know that nutrients are substances in food that all living things need to make energy, grow and develop.</p> <p>I know 'ingredients' are the items in a mixture or recipe.</p> <p>I know I should only have a maximum of five teaspoons of sugar a day to stay healthy.</p> <p>I know that many food and drinks we do not expect to contain sugar do; we call these 'hidden sugars'.</p>	<p>Cycle A</p> <p>I know that not all fruits and vegetables can be grown in the UK.</p> <p>I know that climate affects food growth.</p> <p>I know that vegetables and fruit grow in certain seasons.</p> <p>I know that cooking instructions are known as a 'recipe'.</p> <p>I know imported food has been brought into the country.</p> <p>I know exported food has been sent to another country.</p> <p>I know that imported foods travel from far away which can negatively impact the environment.</p> <p>I know that fruit and vegetables give us nutritional benefits because they contain vitamins, minerals and fibre.</p> <p>I know safety rules for using, storing and cleaning a knife safely.</p>	<p>Cycle B</p> <p>I know that the amount of an ingredient in a recipe is known as the 'quantity.'</p> <p>I know that it is important to use oven gloves when removing hot food from an oven.</p> <p>I know the following cooking techniques: sieving, creaming, rubbing method, cooling.</p> <p>I know the importance of budgeting while planning ingredients for biscuits.</p>	<p>Cycle A</p> <p>I know where meat comes from - learning that beef is from cattle and how beef is reared and processed, including key welfare issues.</p> <p>I know that I can adapt a recipe to make it healthier by substituting ingredients.</p> <p>I know that I can use a nutritional calculator to see how healthy a food option is.</p> <p>I know that 'cross-contamination' means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</p>	<p>Cycle B</p> <p>I know that 'flavour' is how a food or drink tastes.</p> <p>I know that many countries have 'national dishes' which are recipes associated with that country.</p> <p>I know that 'processed food' means food that has been put through multiple changes in a factory.</p> <p>I know that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</p> <p>I know what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).</p>



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Knowledge

Devas	Bannerman		Porteous		Borton	
<p>40-60+ months I know in DT we call a plan a 'design.'</p> <p>I know that a design is a way of planning my idea before I start.</p> <p>I know that threading is putting one material through an object.</p> <p>I know that 'joining technique' means connecting two pieces of material together.</p> <p>ELG Communication and Language; Listening, Attention and Understanding: - Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions - Make comments about what they have heard and ask questions to clarify their understanding</p> <p>Communication and Language; Speaking: - Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary - Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.</p> <p>Expressive Arts and Design; Creating with Materials - Share their creations, explaining the process they have used.</p>	<p>Cycle A I know the importance of a clear design criteria.</p> <p>I know that a client is the person I am designing for.</p> <p>I know that design criteria is a list of points to ensure the product meets the clients' needs and wants.</p> <p>I know that a windmill harnesses the power of wind for a purpose like grinding grain, pumping water or generating electricity.</p> <p>I know that windmill turbines use wind to turn and make the machines inside work.</p> <p>I know that a windmill is a structure with sails that are moved by the wind.</p> <p>I know the three main parts of a windmill are the turbine, axle and structure</p>	<p>Cycle B I know that 'joining technique' means connecting two pieces of material together.</p> <p>I know that there are various temporary methods of joining fabric by using staples, glue or pins.</p> <p>I know that different techniques for joining materials can be used for different purposes.</p> <p>I know that a template (or fabric pattern) is used to cut out the same shape multiple times.</p> <p>I know that drawing a design idea is useful to see how an idea will look.</p> <p>I know some real-life objects that contain mechanisms.</p>	<p>Cycle A I know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse - and their purpose.</p> <p>I know that a façade is the front of a structure.</p> <p>I know that a castle needed to be strong and stable to withstand enemy attack.</p> <p>I know that a paper net is a flat 2D shape that can become a 3D shape once assembled.</p> <p>I know that a design specification is a list of success criteria for a product.</p> <p>I know how pneumatic systems work.</p> <p>I know that pneumatic systems can be used as part of a mechanism.</p> <p>I know that pneumatic systems operate by drawing in, releasing and compressing air.</p>	<p>Cycle B I know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces.</p> <p>I know that when two edges of fabric have been joined together it is called a seam.</p> <p>I know that it is important to leave space on the fabric for the seam.</p> <p>I know that some products are turned inside out after sewing so the stitching is hidden.</p> <p>I know that a design brief is a description of what I am going to design and make.</p> <p>I know that designers often want to hide mechanisms to make a product more aesthetically pleasing.</p>	<p>Cycle A I know what a 'footprint plan' is.</p> <p>I know that in the real world, design, can impact users in positive and negative ways.</p> <p>I know that a prototype is a cheap model to test a design idea.</p> <p>I know that an automata is a hand powered mechanical toy.</p> <p>I know that a cross-sectional diagram shows the inner workings of a product.</p> <p>I know how to use a bench hook and saw safely.</p> <p>I know that a set square can be used to help mark 90° angles.</p>	<p>Cycle B I know blanket stitch can reinforce the edges of a fabric material or join two pieces of fabric.</p> <p>I know that soft toys are often made by creating appendages separately and then attaching them to the main body.</p> <p>I know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.</p> <p>I know that 'form' means the shape and appearance of an object.</p> <p>I know that 'fit for purpose' means that a product works how it should and is easy to use.</p> <p>I know that form over purpose means that a product looks good but does not work very well.</p> <p>I know the diagram perspectives 'top view', 'side view' and 'back'.</p>