

Athersley South Primary School

Design & Technology Long Term Plan

Overview of Topics									
	EYFS	KS	51	LK	S2	UKS2			
		Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2		
Autumn		Textiles - Puppets	Textiles - Pouches	Textiles - Cushions	Textiles - Fastenings	Textiles - Stuffed Toys	Textiles - Waist Coats		
Spring		Structures - Making a windmill	Mechanisms – Making a moving monster	Structures - Pavilions	Mechanisms – Pneumatic toys	Structures - Bridges	Mechanisms – Automata toys		
Summer		Food: Fruit & Vegetables	Food: A Balanced Diet	Food: Eating seasonally	Food: Adapting a Recipe	Food: What could be healthier?	Food: Come Dine with Me		



	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
National Curriculum Objectives	 -Explore different materials, using all their senses to investigate them. -Manipulate and play with different materials. -Use their imagination as they consider what they can do with different materials. -Make simple models which express their ideas. -Explore different materials freely, in order to develop their ideas about how to use them and what to make. -Develop their own ideas and then decide which materials to use to express them. -Join different materials and explore different textures. -Explore, use and refine a variety of artistic effects to express their ideas and feelings. -Return to and build on their previous learning, refining ideas and developing their ability to represent them. -Create collaboratively sharing ideas, resources and skills. Know and talk about the different factors that support their overall health and wellbeing: -Healthy eating 	Design -Design purposeful, functional, themselves and other users bas -Generate, develop, model and through talking, drawing, templ appropriate, information and co Make -Select from and use a range of perform practical tasks [for exa and finishing] -Select from and use a wide ran components, including construct ingredients, according to their of Evaluate -Explore and evaluate a range of -Evaluate their ideas and produ Technical knowledge -Build structures, exploring how stiffer and more stable -Explore and use mechanisms [f wheels and axles], in their prod Nutrition -Use the basic principles of a he prepare dishes -Understand where food comes	appealing products for sed on design criteria communicate their ideas lates, mock-ups and, where communication technology tools and equipment to mple, cutting, shaping, joining age of materials and ction materials, textiles and characteristics of existing products cts against design criteria of they can be made stronger, for example, levers, sliders, ucts. ealthy and varied diet to s from.	Design -Use research and develop design purpose, aimed at particular in -Generate, develop, model and diagrams, prototypes, pattern Make -Select from and use a wider ra- finishing], accurately -Select from and use a wider ra- according to their functional pur- Evaluate -Investigate and analyse a range -Evaluate their ideas and produ- Understand how key events a Technical knowledge -Apply their understanding of H -Understand and use mechanice -Understand and use electrical motors] -Apply their understanding of of Nutrition -Understand and apply the prin- Prepare and cook a variety of -Understand seasonality, and k	ign criteria to inform the design of adividuals or groups d communicate their ideas throug pieces and computer-aided desig ange of tools and equipment to pr ange of materials and component roperties and aesthetic qualities ge of existing products ucts against their own design crite nd individuals in design and techr how to strengthen, stiffen and rei cal systems in their products [for ex computing to program, monitor a nciples of a healthy and varied die predominantly savoury dishes us know where and how a variety.	of innovative, functional, appeali gh discussion, annotated sketche gn erform practical tasks [for examp es, including construction materia eria and consider the views of ot hology have helped shape the we inforce more complex structures example, gears, pulleys, cams, le ample, series circuits incorporat and control their products. et. ing a range of cooking technique	ing products that are fit for es, cross-sectional and exploded ple, cutting, shaping, joining and als, textiles and ingredients, thers to improve their work orld evers and linkages] ing switches, bulbs, buzzers and

Nutrition	EYFS	KS1 - Cycle 1	KS1 - Cycle 2	LKS2 - Cycle 1	LKS2 - Cycle 2	UKS2 - Cycle 1	UKS2 - Cycle 1
Vocabulary	Bake, wash, clean, recipe, ingredients, healthy, unhealthy, flapjack, equipment, weigh, measure, mix, spread, add	Carton, smoothie, chopping, fruit, vegetable, Blender Carton Fruit Healthy Ingredients Peel Peeler Recipe Slice Smoothie Stencil Template Vegetable	Alternative, Diet, Balanced diet, Evaluation. Expensive., Ingredients, Nutrients , Packaging Refrigerator, Sugar, Substitute	Nutritious, Climate, Dry climate Exported Imported Mediterranean climate Nationality Nutrients Polar climate Recipe Seasonal food Seasons Temperate climate Tropical climate	Budget, hygiene, , adapting Adapt Budget Cooling rack Creaming Equipment Flavour Method Net Prototype Quantity Rubbing Sieving Target audience Unit of measurement Utilities recipe Ingredients Evaluation Packaging Recipe	Preparing, appealing, substitute, nutritional, method, Beef , Cross-contamination Ethical issues Farm Healthy Ingredients , Method, Packaging , Reared , Research , Substitute , Supermarket , Vegan , Vegetarian , Welfare Diet Recipe , Nutrients	research, accompaniment, Collaboration, Cookbook, , Flavour , Illustration , Imperative-verb, Preparation , Processed, Research , Storyboard , Target audience , Top tips Unit of measurement Method, Farm, Nationality , Cross-contamination , Equipment, Ingredients Reared, Recipe
Design	Design Select from a range of appropriate healthy options to add to an existing recipe. Can understand which foods are healthy options. Plan flapjack with a healthier twist- sweet – banana, strawberry, pineapple, orange, lemon •	Design Know the difference between fruits and vegetables Can identify if a food is a fruit or a vegetable. Pepper*, Avocado*, Cucumber*, Butternut squash*, Tomato*, Grapes (with seeds)*, Orange (with seeds)*, Apple*, Kiwi*, Strawberry*, Banana*, Pineapple*, Mango*, Blueberries*, Potato, Carrot, Green beans, Lettuce, Onion, Spinach, Celery, Parsnip *fruits Know which fruits and vegetables would combine well by texture and taste to make a smoothie. Can choose 3 or more fruits and vegetables to combine in a smoothie. • Fruits and vegetables from list above	Design Know where to find the nutritional information on packaging Can find the sugar contents in drinks by looking at the nutritional information. Use Change 4 life smart scanner. Make smart (low sugar options/healthier) choices about drinks that they choose to consume. Knowing the five food groups; Fats, proteins, dairy, carbohydrates and fruit/vegetables Can explain that balanced diets consist of a mix of food groups: protein, carbohydrates, dairy, fruits/vegetables, fats Know how to design a healthy wrap based on a food combination which work well together from the following ingredients Can design a healthy wrap based on a food combination which work well together from the following ingredients; cheddar, feta, cream cheese, sour cream, chicken, ham, tofu, crab sticks, iceberg, spinach, rocket, tomato, cucumber, pepper, radish, beetroot, Know properties of different foods in order to combine them appropriately. Can make a balance of taste, texture and nutrition. • Chicken (protein, textured), avocado (healthy fat, smooth and creamy) and rocket leaves (strong peppery flavour, good source of vitamins, high energy density)	Design Know that each fruit and vegetable gives us nutritional benefits. Can create a healthy and nutritious recipe for a savoury filo tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish Know that climate affects food growth Explain that some vegetables and fruit cannot be grown in the UK Bananas – tropical Strawberries – temperate Lychee – tropical Know fruits and vegetables grow in different seasons. Can identify seasonal fruits and vegetables that can be sourced at that time of year. Understand that these climates enable different fruits and vegetables to grow A selection from below Autumn- apple, blackberries, butternut squash, pumpkin, spouts, cabbage, carrot, onion, parsnip, potato, spinach, turnip, Winter- apple, cauliflower, leek, pear, rhubarb, swede Spring- asparagus, cucumber, lettuce, parsley, purple sprouting, radish, red onion Summer- Basil, beans, beetroot, celery, courgette, cucumber, fennel, radish, raspberry, rocket, strawberry.	Design Designing a biscuit within a given budget, drawing upon previous taste testing Describe the impact of the budget on the selection of ingredients. Use their research to inform the design they make.	Design Adapting a traditional recipe (spaghetti Bolognese), understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients Understanding where food comes from - learning that beef is from cattle and how beef is reared and processed Write an amended method for a recipe to incorporate the relevant changes to ingredients. Understanding what constitutes a balanced diet Designing appealing packaging to reflect a recipe Can identify the important information that a consumer will need to know. • Promotes the ingredients in the Bolognese.	 Design Writing a recipe, explaining the key steps, method and ingredients, including facts and drawings from research undertaken Learning how to research a recipe by ingredient Recording the relevant ingredients and equipment needed for a recipe •

Make	Make Adding healthy ingredients to a flapjack recipe Make healthy food choices Follow basic hygiene rules of hand washing and surface cleaning before preparing food. Understand the importance of clean hands both before and after handling food.	Make Know how to chop fruit and vegetables safely to make a smoothie.Can chop fruits and vegetables safely to make a smoothie using bridge cut on pre-cut sticks of fruits and vegetables using a cutlery knife.Know where and how fruits and vegetables grow. (carrots, celery, lettuce, apples, tomatoes)Can name where specific fruits and vegetables grow (named above)• Above ground, underground, trees/vines/bushes	Make Know how to slice food safely using the bridge or claw grip, and know how to apply this skill with any food suitable for slicing. Can slice food safely using the bridge or claw grip, and know how to apply this skill with any food suitable for slicing. Use bridge and claw grip Know how to construct a wrap that meets a design brief. Can select ingredients from below to make wrap that meets a design brief cheddar, feta, cream cheese, sour cream, chicken, ham, tofu, crab sticks, iceberg, spinach, rocket, tomato, cucumber, pepper, radish, beetroot,	MakeKnow how to preparethemselves and a work space tocook safely in, learning the basicrules to avoid foodcontamination Can work withcooking equipment safely andhygienically.Can demonstrate how to use,store and clean a knife safely.Know how to carry knivessafelyUse safe knife grips (bridge,claw, the cross chop)Know to wash hands beforeand after and when requiredto in between.Know how to follow theinstructions within a printedrecipe.Can follow a recipe to make atart.Filo pastry tart usingsavoury, autumn seasonalingredients from above	Make Following a baking recipe Can follow a recipe. Cooking safely, following basic hygiene rules Can work with cooking equipment safely and hygienically, including an oven. Adapting a basic biscuit recipe by adding additional ingredients. Can adapt a recipe based on their research and taste preferences. Bake biscuits using their adapted recipe.	Make Cutting and preparing vegetables safely Can follow safety instructions.Using equipment safely, including knives, hot pans and hobs. Can follow safety instructions, using oven gloves when handling hot equipment.Knowing how to avoid cross- contamination Understand food hygiene and the importance of keeping raw meat separated from other ingredients.Following a step by step method carefully to make a recipe• Can follow a recipe exactly and understand how a finished product can change if the recipe is not followed.	MakeFollowing a recipe, includingusing the correct quantities ofeach ingredient(See Kapow; pepper starter,salmon main, pineappledessert)Adapting a recipe based onresearchUnderstanding the combinationsof food that will complementone anotherMake a tasty 3 course mealWorking to a given timescale asspecified within recipe design.Can manage time to ensurerecipe can be completed.Working safely and hygienicallywith independence• Can manage ingredients andequipment with lesssupervision.
Evaluate	Evaluate Taste and decide if they enjoy their choice of ingredient. Can say what they do and do not like about the flapjack. • To say what they could do differently next time?	Evaluate Know taste combinations of fruits and vegetables to evaluate the overall taste. Can taste combinations of fruits and vegetables to evaluate the overall taste. Using a 5 point sliding scale with 1 being disgusting and 5 being delicious. Know how to describe appearance, smell and taste of fruit and vegetables. Can describe appearance, smell and taste of fruit and vegetables. Use vocabulary – sweet, bland, savoury, delicious, disgusting.	Evaluate Know how to describe the fruit and vegetables that they have used. Can describe the taste, texture and smell of fruits and vegetables. soft, firm, crunchy, crisp, smooth, tasty, yummy, delicious, sweet, savoury, bland Taste test food combinations and final products Can say which food combinations work well together for their preferences. Know the information that should be included on a label. Can find key information about a food nutrition on a label. Using traffic light/percentage information Know which grip was most effective in cutting foods. Describe and evaluate which grip worked better for them Bridge position, the claw and.	Evaluate Evaluate Establishing and using design criteria to help test and review seasonal tarts. Can suggest points for improvement when making a seasonal tart. Know the benefits of seasonal fruits and vegetables Can describe the impact on the environment, freshness and most nutrient rich. Seasonal produce doesn't need to travel so uses less emissions and retains nutrients and quality. •	 <u>Evaluate</u> Evaluate a recipe, considering: taste, smell, texture and appearance using own modified recipe. Describe the impact of the budget on the selection of ingredients. Evaluate and compare colourings, flavourings and additional ingredients that can be added to a basic biscuit recipe. Suggesting modifications to the finished product. Understands how to improve the product. 	Evaluate Identifying the nutritional differences between different products and recipes Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option Identifying and describing health benefits of all food groups (carbohydrates, fats, fruits and vegetables, dairy, protein). Learning to adapt a recipe to make it healthier	EvaluateEvaluating a recipe, considering: taste, smell, texture and origin of the food group Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredientTaste testing and scoring final products Can use taste testing and scoring to compare how successful their final product is.Suggesting and writing up points of improvements in productions.Can contribute a well-written recipe page to a class cookbook using imperative verbs, adjectives and illustrations Class have a cookbook that they can use for future life skills.Evaluating health and safety in production to minimise cross contamination.• Can suggest ways to improve minimising cross- contamination.

Textiles	EYFS	KS1 - Cycle 1	KS1 - Cycle 2	LKS2 - Cycle 1	LKS2 - Cycle 2	UKS2 -
Vocabulary	ribbons, nets, felt, clothes, cloth, material, wrap, stick, tie	ribbons, nets, felt, clothes, cloth, material, wrap, stick, tie, weave, thread , lace,	Decorate, design, fabric, glue, model, hand puppet, safety pin, staple, stencil, template	Accurate, fabric, knot, pouch, running-stitch, sew, shape, stencil, template, thimble	Accurate, appliqué, cross-stitch, cushion, decorate, detail, fabric, patch, running-stitch, seam, stencil, stuffing, target audience, target customer, template	Aesthetic, asse sleeve, design o evaluation, fabr mock-up, net, n stencil, target a customer, tem
Design		 <u>Design</u> Using a template to create a design for a puppet Understand the need for a template 	 <u>Design</u> Designing a pouch Can design a pouch that is aesthetically pleasing 	 <u>Design</u> Designing and making a template from an existing cushion and applying individual design criteria Can use research and knowledge of cushion designs to create their own design criteria 	DesignWriting design criteria for a product, articulating decisions madeDesigning a personalised Book sleeveCan use research to understand what a book sleeve requires in the design criteria.• Understanding that there are different types of fastenings and what they are	Design Designing a stur considering the component sha creating an app Considering pr individual comp Design a stuffe the design crite
Make	Make Explore different materials (recycled ribbons, nets, felt, recycled clothes, paper, card, foil,) freely, to develop their ideas about how to use them and what to make Can use different materials within their creative play Can use scissors to cut materials such as paper, card, and foil	Make Cutting fabric neatly with scissors Uses scissors safely Using joining methods to decorate a puppet Learning different ways in which to join fabrics together: pinning, stapling, gluing Sequencing steps for construction • Can follow a set of instructions to create a given outcome	Make Selecting and cutting fabrics for sewing Neatly pinning and cutting fabric using a templateDecorating a pouch using fabric glue or running stitch Joining items using fabric glue or stitching Sewing running stitch, with evenly spaced, neat, even stitches to join fabric Identifying benefits of these techniques• Threading a needle	MakeFollowing design criteria to create a cushionUnderstanding the need to count the thread on a piece of even weave fabric in each direction to create uniform size and appearanceSelecting and cutting fabrics with ease using fabric scissorsSewing cross stitch to join fabric Threading needles with greater independence Decorating fabric using appliqué Sewing cross stitch and appliqué Sewing cross	Make Making and testing a paper template with accuracy and in keeping with the design criteria Explore the benefits of different fastenings Buckle, button, toggle, press stud, zip and velcroMeasuring, marking and cutting fabric using a paper template Use a temple accuratelySelecting a stitch style to join fabric, working neatly sewing small neat stitches Can work neatly and with accuracy to create a quality end productIncorporating fastening to a design	Make Creating a 3D 2D design Can transfer th accurately to th Measuring, man fabric accurate independently Creating stron blanket stitche fabric Learning to sev to join fabric A stitch so the s the stitches an regular Using applique of fabric decor
Evaluate		Evaluate Reflecting on a finished product, explaining likes and dislikes • Can identify what went well and how it could be improved	Evaluate Evaluating the quality of the stitching on others' work Identifying aspects of their peers' work that they particularly like and why Understand how to give feedback to others Discussing as a class, the success of their stitching against the success criteria	Evaluate Evaluating an end product and thinking of other ways in which to create similar items • Understand how to apply the skills learned to make the cushion to other projects	EvaluateTesting and evaluating an endproduct against the originaldesign criteriaArticulating the benefits anddisadvantages of differentfastening typesDeciding how many of thecriteria should be met for theproduct to be consideredsuccessfulUnderstand which are the moreimportant criteria for asuccessful end product.Suggesting modifications forimprovement	Evaluate Testing and eva product and gir further improv • Can evaluate the design cr

Cycle 1	UKS2 - Cycle 1
nble, book riteria, ic, fastening, running-stitch, udience, target blate	Accurate, annotate, appendage, blanket-stitch, design criteria, detail, evaluation, fabric, sew, shape, stuffed toy, stuffing, template
ffed toy main pes required and ropriate template oportions of onents d toy considering ria	Design Designing a waistcoat in accordance to specification linked to set of design criteria to fit a specific theme. Learning different decorative stitches
eir design heir stuffed toy king and cutting y and	<u>Make</u> Using template pinning panels onto fabric Marking and cutting fabric accurately, in accordance with a design Can use a template accurately
g and secure s when joining v blanket stitch pplying blanket bace between e even and to attach pieces ation eedles ly	Sewing a strong running stitch, making small, neat stitches and following the edge Sewing accurately with even regularity of stiches Tying strong knots Decorating a waistcoat - attaching objects using thread and adding a secure fastening Can use a variety of decorative techniques Application and outcome of the individual technique
luating an end ring points for ements critically against teria.	Evaluate Evaluating work continually as it is created • Can spot errors in their work and can correct and improve it.

Structures							
and	EYFS	KS1 - Cycle 1	KS1 - Cycle 2	LKS2 - Cycle 1	LKS2 - Cycle 2	UKS2 - Cycle 1	UKS2 - Cycle 1
mechanisms							
Vocabulary	Explore, join, materials, models, build, construction, plan, create, cut, stick Move, propel, turn, forward, backward, wheel, mechanic, vehicle, sail	Client, Design, Evaluation, Net, Stable, Strong, Test, Weak, Windmill	Evaluation, Input, Lever, Linear motion, Linkage, Mechanical, Mechanism, Motion, oscillating motion, Output, Pivot, Reciprocating motion, Rotary motion, Survey	Aesthetic, Cladding, Design criteria, Evaluation, Frame structure, Function, Inspiration, Pavilion, Reinforce, Stable, Structure, Target audience, Target customer, Texture, Theme	Exploded-diagram, Function, Input, Lever, Linkage, Mechanism, Motion, Net, Output, Pivot, Pneumatic system, Thumbnail sketch	Abutment, Accurate, Arched bridge, Beam bridge, coping saw, Evaluation, File, Mark out, Material properties, Measure, Predict, Reinforce, Research, Sandpaper, set square, Suspension bridge, Tenon saw, Test, Truss bridge, Wood	Accurate, Assembly-diagram, Automata, Axle, Bench hook, Cam, Clamp, Component, cutting list, Diagram, Dowel, Drill bits, Exploded-diagram, Finish, Follower, Frame, Function, Hand drill, Jelutong, Linkage, Mark out, Measure, Mechanism, Model, Research, Right-angle, set square, Tenon saw
Design	Design Explore moving objects (vehicles, moving toys) and identify parts that move (wheels, levers). Identify moving parts of an object. Consider what they can do with different materials including boxes, card board, card, bottle tops, lids, paper, string, tubes and pots. Identify a building or vehicle structure, naming the finished result and components used. Develop their own ideas and then decide which materials to use to express them. Understanding that structures need a solid base.	Design Learning the importance of a clear design criteria, including individual preferences and requirements in a design Describing the purpose of structures, including windmills Can plan a product to suit a consumer	Design Creating a class design criteria for a moving monster Using the vocabulary: up, down, left, right, vertical and horizontal to describe movementDesigning a moving monster for a specific audience in accordance with a design criteriaSelecting a suitable linkage system to produce the desired motions Learning that levers and sliders are mechanisms and can make things move Identifying whether a mechanism is a lever or slider and determining what movement the mechanism will makeDesigning a wheel Identifying what mechanism makes a toy or vehicle roll forwards Learning that for a wheel to move it must be attached to an axle Selecting appropriate materials based on their properties	Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect Learning what pavilions are and their purpose Learning that architects consider light, shadow and patterns when designing Building frame structures designed to support weight Building on prior knowledge of net structures and broadening knowledge of frame structures	Design Designing a toy which uses a pneumatic system Developing design criteria from a design brief Understanding how pneumatic systems work Generating ideas using thumbnail sketches and exploded diagrams Learning that different types of drawings are used in design to explain ideas clearly Can use thumbnail sketches and exploded diagrams to record their ideas. Learning that mechanisms are a system of parts that work together to create motion	Designing a stable structure that is able to support weight Identifying arch and beam bridges and understanding the terms: compression and tension Can use research in their design to plan a strong bridge. Creating frame structure with focus on triangulation Exploring how to create a strong beam Identifying stronger and weaker structures	Design After experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement Exploring cams, learning that different shaped cams produce different follower movements Understanding how linkages change the direction of a force Making things move at the same time Exploring types of motions and direction of a motion
Make	MakeJoin different materialsCan use glue and tape to join 2materialsMake models, pictures andcollages using junk modellingequipmentMake simple models whichexpress their ideas includingvehicles and buildings.Learning how to use 3D shapesto build effective structures	<u>Make</u> Making stable structures from card, tape and glue Learning how to turn 2D nets into 3D structures Learning that the shape of materials can be changed to improve the strength and stiffness of structures Understanding that cylinders are a strong type of structure that are often used for windmills and lighthouses	MakeMaking linkages using card forlevers and split pins for pivotsUnderstand how to joinmaterials that create pivotsExperimenting with linkagesadjusting the widths, lengthsand thicknesses of card usedAdjust and improve their workas they are making it.Cutting and assemblingcomponents neatly	<u>Make</u> Creating a range of different shaped frame structures Building on prior knowledge of net structures and broadening knowledge of frame structures Making a variety of free- standing frame structures of different shapes and sizes Implementing frame and shell structure knowledge	<u>Make</u> Creating a pneumatic system to create a desired motion Understanding that pneumatic systems can be used as part of a mechanism Building secure housing for a pneumatic system Can secure material together using a variety of methods Tape, glue, hot glue guns, staples.	MakeMaking a range of differentshaped beam bridgesArticulating the differencebetween beam, arch, truss andsuspension bridgesUsing triangles to create trussbridges that span a givendistance and supports a loadUnderstanding how trianglescan be used to reinforcebridges	<u>Make</u> Measuring, marking and checking the accuracy of the jelutong and dowel pieces required Using a bench hook to saw safely and effectively Measuring, marking and cutting components accurately using a ruler and scissors Assembling components accurately to make a stable frame

	including cube, cuboid, cone, cylinder, pyramid). Join different materials and explore different textures. [smooth, rough, scratchy, soft, hard, bumpy, fluffy] Can join 2 materials using tape, glue and split pins Make 3D models using junk modelling equipment	Following instructions to cut and assemble the supporting structure of a windmill Can cut and assemble accurately enough to ensure their structure stand up. Understand the importance of accuracy when making structures. Making functioning turbines and axles which are assembled into a main supporting structure Understanding that axles are used in structures and mechanisms to make parts turn in a circle Understanding that windmill turbines use wind to turn and make the machines inside work Developing awareness of different structures for different purposes	Selecting materials according to their characteristics Following a design brief Understand the importance of following the design	Selecting appropriate materials to build a strong structure and for the cladding Reinforcing corners to strengthen a structure Understand the properties of different materials Learning to create different textural effects with materials Use materials for aesthetic reasons	Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy Apply pneumatic systems to make their toy move. Selecting materials due to their functional and aesthetic characteristics Manipulating materials to create different effects by cutting, creasing, folding, weaving Can use materials in a variety of ways to create an aesthetically pleasing product Learning that pneumatic systems force air over a distance to create movement	Independently measuring and marking wood accurately Selecting appropriate tools and equipment for particular tasks Using the correct techniques to saws safely Use tools and equipment safely and accurately Identifying where a structure needs reinforcement and using card corners for support Finding different ways to reinforce structures Building a wooden bridge structure	Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set
Evaluate	 Return to and build on their previous learning, refining ideas and developing their ability to represent them. Use words including plan, create, change, add 	Evaluate Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. Can make judgements against the design criteria to see if it meets it. Suggest points for improvements Understand the importance of accuracy when making structures.	Evaluate Evaluating own designs against design criteria Testing and adapting a design Can compare the final product to the design criteria and say how it could be improved. Using peer feedback to modify a final design Evaluating different designs Can explain what they like and do not like about a design	Evaluate Evaluating structures made by the class Can evaluate against the design criteria. Describing what characteristics of a design and construction made it the most effective Considering effective and ineffective designs	Evaluate Using the views of others to improve designs Can adapt own work based on feedback from peers Testing and modifying the outcome, suggesting improvements	Evaluate Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary Test and evaluate the strength of their structure. Finding different ways to reinforce structures Suggesting points for improvements for own bridges and those designed by others	Evaluate Evaluating the work of others and receiving feedback on own work Applying points of improvements Describing changes they would make/ do if they were to do the project again