	Design Technology Progression				
	EYFS	Year 1 and Year 2	Years 3, 4, 5 & 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, appealing products for themselves and other users based on design criteria -Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Make -Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] -Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Evaluate -Explore and evaluate a range of existing products -Evaluate their ideas and products against design criteria Technical knowledge -Build structures, exploring how they can be made stronger, stiffer and more stable -Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Nutrition -Use the basic principles of a healthy and varied diet to prepare dishes -Understand where food comes from	Design -Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups -Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design Make -Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately -Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities Evaluate -Investigate and analyse a range of existing products -Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work -Understand how key events and individuals in design and technology have helped shape the world Technical knowledge -Apply their understanding of how to strengthen, stiffen and reinforce more complex structures -Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] -Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] -Apply their understanding of computing to program, monitor and control their products. Nutrition -Understand and apply the principles of a healthy and varied dietPrepare and cook a variety of predominantly savoury dishes using a range of cooking techniques.		

		Textiles					
	EYFS	By the end	of Year 2	By the end	of Year 4	By the end	d of Year 6
		Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2
Vocabulary	Material, fabric, cut, stick & colour	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, assemble, book sleeve, design criteria, evaluation, fabric, fastening, mock-up, net, running-stitch, stencil, target audience, target customer, template	accurate, annotate, appendage, blanket- stitch, design criteria, detail, evaluation, fabric, sew, shape, stuffed toy, stuffing, template
Design	To represent their ideas for using textiles through drawing and mark making.	 Design an item using own template. Consider how to achieve given design criteria. 		Design an item in accordance to own criteria Consider the proportions of individual components in design		 Design an item in accordance to a specification linked to a design criterion. Annotate designs with front, side and back views 	
Make	Explore different materials (recycled ribbons, nets, felt, vivelle, recycled clothes) freely, to develop their ideas about how to use them and what to make	Sequence steps to make an item Select own materials Pin and cut materials using a template Use fabric glue with effect Use running stitch to join two materials		Measure, mark and cut template Select and cut fabrics w scissors Thread needles with greeting the triple of tri	eater independence ndependence fabric c using appliqué o join fabric, working t stitches	stitches are even and re Use a strong running st stitches to following the Add a secure fastening Learning different deco	fabric accurately and dance with design pendently h pieces of fabric re blanket stitches when so the space between the egular itch, making small, neat e edge (top stitching) to an item

	Articulate what they know.	Reflecting on a finished product, explaining likes and dislikes	 Evaluating an end product, thinking of other ways in which to create similar items and 	 Testing and evaluating an end product and giving point for further improvements
a		Troubleshoot scenarios posed by teacher	suggesting modifications for improvement	Evaluating work continually as it is created and
Evaluate		Evaluating the quality of the stitching on others' work	Testing and evaluating an end product against the original design criteria	suggesting how individual steps could be improved.
a /a		Discussing the success of their stitching against the	Deciding how many of the criteria should be	·
山		design criteria	met for the product to be considered successful	
		3	Articulating the advantages and disadvantages	
			of different fastening types	
	To know how to begin to join	To know that 'joining technique' means connecting	To know that applique is a way of mending or	To know that blanket stitch is useful to reinforce
	materials	two pieces of material together	decorating a textile by applying smaller pieces	the edges of a fabric material or join two pieces
	 To know that joining can be 	To know that there are various temporary methods	of fabric	of fabric
Ð	permanent or temporary	of joining fabric by using staples. glue or pins	 To know that when two edges of fabric have 	• To know that it is easier to finish simpler designs
 20		To know that different techniques for joining	been joined together it is called a seam	to a high standard
Knowledge		materials can be used for different purposes	 To know that it is important to leave space on 	 To know that soft toys are often made by
 		To know that a template (or fabric pattern) is used	the fabric for the seam	creating appendages separately and then
0		to cut out the same shape multiple times	 To know that some products are turned inside 	attaching them to the main body
7		To know that drawing a design idea is useful to see	out after sewing so the stitching is hidden	To know that small, neat stitches which are pulled
		how an idea will look	 To know that a fastening is something which 	taut are important to ensure that the soft toy is
S		To know that sewing is a method of joining fabric	holds two pieces of material together for	strong and holds the stuffing securely
		To know that different stitches can be used when	example, a zipper, toggle, button, press stud and	To know that it is important to design clothing
<u>- </u>		sewing	Velcro	with the client/ target customer in mind
Technical		To know the importance of tying a knot after sewing	To know that different fastening types are useful	To know that using a template (or clothing
-		the final stitch	for different purposes	pattern) helps to accurately mark out a design on
		To know that a thimble can be used to protect my	To know that creating a mock up (prototype) of	fabric
		fingers when sewing	their design is useful for checking ideas and	To know the importance of consistently sized
			proportions	stitches

	Structures and Mechanisms						
	EYFS	By the end of Year 2		By the end of Year 4		By the end of Year 6	
		Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2
Vocabulary	Explore, join, materials, models, build, construction, plan, create, cut, stick Move, propel, turn, forward, backward, wheel, mechanic, vehicle, sail	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
Design	Consider what they can do with different materials including boxes, card board, card, bottle tops, lids, paper, string, tubes and pots. Develop their own ideas and then decide which materials to use to express them. Explore moving objects (vehicles, moving toys) and identify parts that move (wheels, levers).	Learn the importance of a clear design criteria Use my own preferences and requirements in a design Designing a moving mechanism for a specific audience in accordance with a design criterion		 Design a stable structure that is aesthetically pleasing Design a mechanism which uses a pneumatic system Develop design criteria from a design brief Generate ideas using thumbnail sketches and exploded diagrams Know that different types of drawings are used in design to explain ideas clearly 		 Design a stable structure that is able to support weight Create frame structure with focus on triangulation Experiment with a range of cams, creating a design for an automaton based on a choice of cam to create a desired movement Understand how linkages change the direction of a force Understand and draw cross-sectional diagrams to show the inner-working Explain why selecting appropriating materials is 	
Make	Make simple models which express their ideas including vehicles and buildings. Join different materials and explore different textures. [smooth, rough, scratchy, soft, hard, bumpy, fluffy]	Make a stable structure from card, tape and glue Learn how to turn 2D nets into 3D structures Follow instructions to cut and assemble a supporting structure Make functioning turbines and axles which are assembled into a main supporting structure Make linkages using card for levers and split pins for pivots Experiment with linkages adjusting the widths, lengths and thicknesses of card used Cut and assemble components neatly		 Make a variety of free-standing frame structures of different shapes and sizes Select appropriate materials to build a strong structure and for the cladding Reinforce corners to strengthen a structure Learn to create different textural effects with materials Create a pneumatic system to create a desired motion Build secure housing for a pneumatic system Use syringes and balloons to create different types of pneumatic systems To make a functional and appealing pneumatic toy Selecting materials due to their functional and aesthetic characteristics 		 an important part of the design process Make a range of different shaped beam bridges Use triangles to create truss bridges that span a given distance and supports a load Measure, mark and cut components accurately using appropriate tools for particular tasks Use the correct techniques to saws safely Identify where a structure needs reinforcement and using card corners for support Understand basic wood functional properties Assemble components accurately to make a stable frame 	

			Manipulating materials to create different offects by sutting creasing folding weaving	
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 own designs against design criteria Use peer feedback to modify a final design	 effects by cutting, creasing, folding, weaving Evaluate structures made by the class Describe what characteristics of a design and construction made it the most effective Use the views of others to improve designs Test and modify the outcome, suggesting improvements Understand the purpose of exploded-diagrams through the eyes of a designer and their client 	 Adapt and improve own structure by identifying points of weakness and reinforcing them as necessary Suggest points for improvements for own structure and those designed by others Evaluate the work of others and receive feedback on own work Apply points of improvements Describe changes they would make/do if they were to do the project again
Technical Knowledge	Identify a building or vehicle structure , naming the finished result and components used. Learning how to use 3D shapes to build effective structures including cube, cuboid, cone, cylinder, pyramid). Understanding that structures need a solid base. Identify moving parts of an object.	 To know that the shape of materials can be changed to improve the strength and stiffness of structures To know that cylinders are a strong type of structure (e.g. the main shape used for windmills and lighthouses) To know that axles are used in structures and mechanisms to make parts turn in a circle To begin to know that different structures are used for different purposes To know that a structure is something that has been made and put together Additional 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 client's 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 To know that mechanisms are a collection of moving parts that work together as a machine to produce movement 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 what a 'free-standing' structure is one which can stand on its own Additional To know that a pavilion is a decorative building or structure for leisure activities To know that cladding can be applied to structures for different effects. To know that aesthetics is how a product looks To know that a product's function means its purpose To know that the target audience means the person or group of people a product is designed for To know that architects consider light, shadow and patterns when designing To know how pneumatic systems work To know that pneumatic systems can be used as part of a mechanism To know that pneumatic systems operate by drawing in, releasing and compressing air To know how sketches, drawings and diagrams can be used to communicate design ideas To know that exploded-diagrams are used to show how different parts of a product fit together To know that thumbnail sketches are small drawings to get ideas down on paper quickly 	 To know some different ways to reinforce structures To know how triangles can be used to reinforce bridges To know that properties are words that describe the form and function of materials To know why material selection is important based on their properties To know the material (functional and aesthetic) properties of wood Additional To know the difference between arch, beam, truss and suspension bridges To know how to carry and use a saw safely To know that the mechanism in an automaton uses a system of cams, axles and followers To know that different shaped cams produce different outputs To know that an automaton is a hand powered mechanical toy To know that a cross-sectional diagram shows the inner workings of a product To know how to use a bench hook and saw safely To know that a set square can be used to help mark 90° angles

	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	

		Nutrition					
	EYFS	By the en	d of Year 2	By the end	of Year 4	By the en	d of Year 6
		Cycle 1	Cycle 2	Cycle 1	Cycle 2	Cycle 1	Cycle 2
Vocabulary	Fruit, vegetable, grow, bake, cook, mix, melt, whisk, Healthy	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, target audience, taste, texture, combine, hygiene, sieve, budget, construct, cuboid, cut, fold, layout	nutritious, climate, dry climate exported imported Mediterranean climate nationality nutrients polar climate recipe seasonal food seasons temperate climate tropical climate	budget, hygiene, adapting, 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
Design	Select from a range of appropriate healthy options to add to an existing recipe. [savoury – peppers, mushrooms, tomatoes, onion, sweet corn,	 To know the difference vegetables and identify other Pepper*, Avocado*, Cuc Tomato*, Grapes (with seeds)*, Apple*, Kiwi*, State of the seeds of the difference of the seeds of the s	if a food is a one or the umber*, Butternut squash*, eeds)*, Orange (with	 To know that each fruit anutritional benefits. To know the seasonality vegetables: 			understanding that the cipe alters if you remove,

	alived (sweet banana	Dincapple* Mange* Physherries* Detate Carret	- Autumn apple blackbarries butternut squash	. To understand that heaf is from cattle and how
	olives] [sweet – banana, strawberry,	 Pineapple*, Mango*, Blueberries*, Potato, Carrot, Green beans, Lettuce, Onion, Spinach, Celery, Parsnip *fruits To know which textures and tastes of fruits and vegetables would combine well in a smoothie. To know where to find the nutritional information on packaging To know how to find the sugar contents in drinks by looking at the nutritional information. To know how to make smart (low sugar options/healthier) choices about drinks that they choose to consume. To know the five food groups: fats, proteins, dairy, carbohydrates and fruit/vegetables To know how a balanced diets consist of a mix of food groups: protein, carbohydrates, dairy, fruits/vegetables, fats To know how to 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, To know taste, texture and nutritional values of different foods in order to combine them appropriately Chicken (protein, textured), avocado (healthy fat, smooth and creamy) and rocket leaves (strong peppery flavour, good source of vitamins, high energy density) 	 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, spring onions Summer- Basil, beans, beetroot, celery, courgette, cucumber, fennel, radish, raspberry, rocket, strawberry. To know how to create a healthy and nutritious recipe for a savoury filo tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish To know that climate affects food growth To know that some vegetables and fruit cannot be grown in the UK, Bananas – tropical, Strawberries – temperate, Lychee – tropical To know which flavours will combine to produce a sweet biscuit To know how budget can impact the selection of ingredients 	 To understand that beef is from cattle and how beef is reared and processed, pork is from a pig and vension is from a deer. Write an amended method for a recipe to incorporate the relevant changes to ingredients. To know what constitutes a balanced diet To know how design packaging reflects the ingredients in a recipe To know the important information a consumer will need to know. To know how to write a recipe, explaining the key steps, method and ingredients, including facts and drawings from research undertaken
Make	Adding healthy toppings to a pancake/'pitta' pizza to add flavour. Follow basic hygiene rules of hand washing and surface cleaning before preparing food.	 To know how to chop fruit and vegetables safely using bridge cut on pre-cut sticks of fruits and vegetables using a cutlery knife. To know how to chop food safely using the claw grip, and know how to apply this skill with any food suitable for slicing. To know how to construct a wrap that meets a design brief. 	 To know how to prepare themselves and a work space to cook safely in To know the basic food hygiene rules to avoid food contamination To know how to work with cooking equipment safely in To know how to use, store and clean a knife safely. To know how to carry knives safely To know how to use the following safe knife grips: bridge, claw, the cross chop To know when to wash hands before, after and in between handling different foods To know how to follow a set of instructions within a printed recipe with support To know how to work safely with an oven. To know how long to bake biscuits so they are not raw or overcooked. 	 To know how to prepare meat and vegetables safely To know how to follow safety instructions. To know how to use equipment safely, including knives, hot pans and hobs. To know to use oven gloves when handling hot equipment. To know how to avoid cross-contamination between different food groups To know raw meat is to be stored separately from other ingredients. To know how to independently follow a step by step recipe exactly and understand how a finished product can change if the recipe is not followed. To know how to weight the correct quantities of each ingredient To know how to work to a given timescale as specified within a recipe

Evaluate	Taste and decide if they enjoy their choice of ingredient. To say what they could do differently next time?	 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. 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 etc. 	 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. 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. 	 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 Evaluating 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 ingredient Taste 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.
Technical Knowledge	To know that we need a range of different foods to be healthy. To know that vegetables and fruits help to keep our bodies healthy. To know the fruit and vegetables grow.	 Understanding the difference between fruits and vegetables Fruits Pepper* Avocado* cucumber* Butternut squash* Tomato* Grapes (with seeds) Orange (with seeds) Apple Kiwi Strawberry Banana Pineapple Mango Blueberries Vegetables Potato, Carrot, Green beans Lettuce, Onion, Spinach, Celery Parsnip Describe and group fruits by texture and taste Fruits as above Understanding what makes a balanced diet Knowing where to find the nutritional information on packaging Knowing the five food groups; Fats, proteins, dairy, carbohydrates and fruit/vegetables 	 Explain that climate affects food growth Bananas – tropical Strawberries – temperate Lychee – tropical Work with cooking equipment safely and hygienically Discuss how imported foods travel from far away and this can negatively impact the environment. Explain that vegetables and fruit grow in certain seasons Learning that each fruit and vegetable gives us nutritional benefits Demonstrate how to use, store and clean a knife safely Understanding the impact of the cost and importance of 	 Understanding where food comes from learning that beef is from cattle and how beef is reared and processed Understanding what constitutes a balanced diet Learning to adapt a recipe to make it healthier Comparing two adapted recipes using a nutritional calculator and then identifying the healthier option Learning how to research a recipe by ingredient Recording the relevant ingredients and equipment needed for a recipe Understanding the combinations of food that will complement one another

budgeting while planning ingredients for

biscuits

	Explain the impact of cost and of budgeting while planning ingredients.	Understanding where food comes from, describing the process of 'Farm to Fork' for a given ingredient
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