



# St Paul's Junior School Progression of Skills for Design and Technology



St Paul's Junior School Progression of Skills in Design and Technology		Year 3		
		Textiles Sewing Appliqué- Egyptian Collars	Construction Structure- Castles	Food Eating Seasonally- Tarts
Skills	Design	<ul style="list-style-type: none"> <li>Designing and making a template from an existing cushion and applying individual design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>Designing a castle with key features to appeal to a specific person/purpose.</li> <li>Drawing and labelling a castle design using 2D shapes, labelling:               <ul style="list-style-type: none"> <li>-the 3D shapes that will create the features</li> <li>- materials needed and colours.</li> </ul> </li> <li>Designing and/or decorating a castle tower on CAD software.</li> </ul>	<ul style="list-style-type: none"> <li>Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.</li> </ul>
	Make	<ul style="list-style-type: none"> <li>Following design criteria to create a Egyptian collar.</li> <li>Selecting and cutting fabrics with ease using fabric scissors.</li> <li>Threading needles with greater independence.</li> <li>Tying knots with greater independence.</li> </ul>	<ul style="list-style-type: none"> <li>Constructing a range of 3D geometric shapes using nets .</li> <li>Creating special features for individual designs.</li> <li>Making facades from a range of recycled materials.</li> </ul>	<ul style="list-style-type: none"> <li>Knowing how to prepare themselves and a workspace to cook safely in, learning the basic rules to avoid food contamination.</li> <li>Following the instructions within a recipe.</li> </ul>



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		<ul style="list-style-type: none"><li>• Sewing cross stitch to join fabric.</li><li>• Decorating fabric using appliqué.</li><li>• Completing design ideas with embellishing the collars based on design ideas (Egyptian collars).</li></ul>		
	Evaluate	<ul style="list-style-type: none"><li>• Evaluating an end product and thinking of other ways in which to create similar items.</li></ul>	<ul style="list-style-type: none"><li>• Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.</li><li>• Suggesting points for modification of the individual designs.</li></ul>	<ul style="list-style-type: none"><li>• Establishing and using design criteria to help test and review dishes.</li><li>• Describing the benefits of seasonal fruits and vegetables and the impact on the environment.</li><li>• Suggesting points for improvement when making a seasonal tart.</li></ul>
		<ul style="list-style-type: none"><li>• To know that applique is a way of mending or decorating a</li></ul>	<ul style="list-style-type: none"><li>• To understand that wide and flat based objects are more stable.</li></ul>	<ul style="list-style-type: none"><li>• To know that not all fruits and vegetables can be grown in the UK.</li></ul>



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Knowledge	<p>textile by applying smaller pieces of fabric to larger pieces.</p> <ul style="list-style-type: none"><li>• To know that when two edges of fabric have been joined together it is called a seam.</li><li>• To know that it is important to leave space on the fabric for the seam.</li><li>• To understand that some products are turned inside out after sewing so the stitching is hidden.</li></ul>	<ul style="list-style-type: none"><li>• To understand the importance of strength and stiffness in structures.</li></ul>	<ul style="list-style-type: none"><li>• To know that climate affects food growth.</li><li>• To know that vegetables and fruit grow in certain seasons.</li><li>• To know that cooking instructions are known as a 'recipe'.</li><li>• To know that imported food is food which has been brought into the country.</li><li>• To know that exported food is food which has been sent to another country.</li><li>• To understand that imported foods travel from far away and this can negatively impact the environment.</li><li>• To know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre.</li></ul>
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			<ul style="list-style-type: none"><li>• To understand that vitamins, minerals and fibre are important for energy, growth and maintaining health.</li><li>• To know safety rules for using, storing and cleaning a knife safely.</li><li>• To know that similar coloured fruits and vegetables often have similar nutritional benefits.</li></ul>
Vocabulary	Applique, cross-stitch, fabric, running stitch, thread, cotton, silk, pinking, design, evaluate, research.	2D, 3D, castle, key features, scoring, stable, strong, design, net, shape, stiff, structure, research, evaluate.	Climate, imported, natural, reared, seasonal, diet, ingredients, processed, recipe, seasons, design, evaluate, research.



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St Paul's Junior School Progression of Skills in Design and Technology		Year 4		
		Textiles Sewing Fastening- Book Covers	Electrical Systems Torches	Food Adapting a recipe
Skills	Design	<ul style="list-style-type: none"> <li>• Writing design criteria for a product, articulating decisions made.</li> <li>• Designing a personalised book sleeve.</li> </ul>	<ul style="list-style-type: none"> <li>• Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.</li> </ul>	<ul style="list-style-type: none"> <li>• Designing bread within a given budget, drawing upon previous taste testing judgements.</li> </ul>
	Make	<ul style="list-style-type: none"> <li>• Making and testing a paper template with accuracy and in keeping with the design criteria.</li> <li>• Measuring, marking and cutting fabric using a paper template.</li> <li>• Selecting a stitch style to join fabric, working neatly by sewing small, straight stitches.</li> </ul>	<ul style="list-style-type: none"> <li>• Making a torch with a working electrical circuit and switch.</li> <li>• Using appropriate equipment to cut and attach materials.</li> <li>• Assembling a torch according to the design and success criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• Following a baking recipe, from start to finish, including the preparation of ingredients.</li> <li>• Cooking safely, following basic hygiene rules.</li> <li>• Adapting a recipe to improve it or change it to meet new criteria (e.g. from savoury to sweet).</li> </ul>



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		<ul style="list-style-type: none"><li>• Incorporating fastening to a design.</li></ul>		
	Evaluate	<ul style="list-style-type: none"><li>• Testing and evaluating an end product against the original design criteria.</li><li>• Deciding how many of the criteria should be met for the product to be considered successful.</li><li>• Suggesting modifications for improvement.</li><li>• Articulating the advantages and disadvantages of different fastening types.</li></ul>	<ul style="list-style-type: none"><li>• Evaluating electrical products.</li><li>• Testing and evaluating the success of a final product.</li></ul>	<ul style="list-style-type: none"><li>• Evaluating a recipe, considering taste, smell, texture and appearance.</li><li>• Describing the impact of the budget on the selection of ingredients.</li><li>• Evaluating and comparing a range of food products.</li><li>• Suggesting modifications to a recipe</li></ul>
Knowledge		<ul style="list-style-type: none"><li>• To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and velcro.</li></ul>	<ul style="list-style-type: none"><li>• To know that an electrical circuit must be complete for electricity to flow.</li><li>• To know that a switch can be used to complete and break an electrical circuit.</li></ul>	<ul style="list-style-type: none"><li>• To know that the amount of an ingredient in a recipe is known as the 'quantity.'</li><li>• To know that it is important to use oven gloves when</li></ul>



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	<ul style="list-style-type: none"><li>• To know that different fastening types are useful for different purposes.</li><li>• To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.</li></ul>		<p>removing hot food from an oven.</p> <ul style="list-style-type: none"><li>• To know the following cooking techniques: sieving, creaming, rubbing method, cooling.</li><li>• To understand the importance of budgeting while planning ingredients for bread.</li></ul>
Vocabulary	Criteria, fastening, mock-up, fabric, fix, stitch, template, design, evaluate, research.	Batter, buzzer, circuit, electricity, series circuit, component, design, evaluate, model, target audience, bulb, conductor, insulator, switch, diagram, LED, research.	Design, texture, cross-contamination, processed, research, measure, diet, packaging, evaluate.



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St Paul's Junior School Progression of Skills in Design and Technology		Year 5		
		Textile- Stuffed Toy	Cooking- What could be healthier? (Samosas)	Mechanical Systems- Pop-up Books
Skills	Design	<ul style="list-style-type: none"> <li>• Designing a stuffed toy, considering the main component shapes required and creating an appropriate template.</li> <li>• Considering the proportions of individual components.</li> </ul>	<ul style="list-style-type: none"> <li>• Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</li> <li>• Writing an amended method for a recipe to incorporate the relevant changes to ingredients.</li> <li>• Designing appealing packaging to reflect a recipe.</li> </ul>	<ul style="list-style-type: none"> <li>• Designing a pop-up book which uses a mixture of structures and mechanisms.</li> <li>• Naming each mechanism, input and output accurately.</li> <li>• Storyboarding ideas for a book.</li> </ul>
	Make	<ul style="list-style-type: none"> <li>• Creating a 3D stuffed toy from a 2D design.</li> <li>• Measuring, marking and cutting fabric accurately and independently.</li> </ul>	<ul style="list-style-type: none"> <li>• Cutting and preparing vegetables safely.</li> <li>• Using equipment safely, including knives, hot pans and hobs.</li> <li>• Knowing how to avoid cross-contamination.</li> </ul>	<ul style="list-style-type: none"> <li>• Following a design brief to make a pop up book, neatly and with focus on accuracy.</li> <li>• Making mechanisms and/or structures using sliders, pivots and folds to produce movement.</li> <li>• Using layers and spacers to</li> </ul>





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		<ul style="list-style-type: none"><li>• Creating strong and secure blanket stitches when joining fabric.</li><li>• Threading needles independently.</li><li>• Using appliqué to attach pieces of fabric decoration.</li><li>• Sewing blanket stitch to join fabric.</li><li>• Applying blanket stitch so the spaces between the stitches are even and regular.</li></ul>	<ul style="list-style-type: none"><li>• Following a step by step method carefully to make a recipe.</li></ul>	hide the workings of mechanical parts for an aesthetically pleasing result.
	Evaluate	<ul style="list-style-type: none"><li>• Testing and evaluating an end product and giving point for further improvements.</li></ul>	<ul style="list-style-type: none"><li>• Identifying the nutritional differences between different products and recipes.</li><li>• Identifying and describing healthy benefits of food groups.</li></ul>	<ul style="list-style-type: none"><li>• evaluate a product against the original design specification</li><li>• evaluate it personally and seek evaluation from others</li></ul>
Knowledge		<ul style="list-style-type: none"><li>• To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric.</li></ul>	<ul style="list-style-type: none"><li>• To know that I can adapt a recipe to make it healthier by substituting ingredients.</li></ul>	<ul style="list-style-type: none"><li>• To know that mechanisms control movement.</li><li>• To understand that mechanisms can be used to</li></ul>



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	<ul style="list-style-type: none"><li>• To understand that it is easier to finish simpler designs to a high standard.</li><li>• To know that soft toys are often made by creating appendages separately and then attaching them to the main body.</li><li>• To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.</li></ul>	<ul style="list-style-type: none"><li>• To know that I can use a nutritional calculator to see how healthy a food option is.</li><li>• To understand 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.</li></ul>	<p>change one kind of motion into another.</p> <ul style="list-style-type: none"><li>• To understand how to use sliders, pivots and folds to create paper-based mechanisms.</li></ul>
Vocabulary	Accurate, appendage, design, evaluate, sew, annotate, blanket stitch, detail, fabric, shape, stuffing, research.	Processed, diet, supermarket, ethical, ingredients, seasonal, balanced, nutritional, evaluate, design, research.	Design, motion, criteria, reinforce, input, mechanism, research, model, evaluate.



# St Paul's Junior School Progression of Skills for Design and Technology



St Paul's Junior School Progression of Skills in Design and Technology		Year 6		
		Mechanical Systems- Automata Toys	Textiles Sewing- Waistcoats	Cooking- Come dine with me
Skills	Design	<ul style="list-style-type: none"><li>• Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement.</li><li>• Understanding how linkages change the direction of a force.</li><li>• Making things move at the same time.</li><li>• Understanding and drawing cross-sectional diagrams to show the inner-workings of my design.</li></ul>	<ul style="list-style-type: none"><li>• Designing a waistcoat in accordance to a specification linked to set of design criteria.</li><li>• Annotating designs, to explain their decisions.</li></ul>	<ul style="list-style-type: none"><li>• Writing a recipe, explaining the key steps, method and ingredients.</li><li>• Including facts and drawings from research undertaken.</li></ul>
	Make	<ul style="list-style-type: none"><li>• Measuring, marking and checking the accuracy of the jelutong and dowel pieces required.</li></ul>	<ul style="list-style-type: none"><li>• Using a template when cutting fabric to ensure they achieve the correct shape.</li></ul>	<ul style="list-style-type: none"><li>• Following a recipe, including using the correct quantities of each ingredient.</li><li>• Adapting a recipe based on research.</li></ul>



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		<ul style="list-style-type: none"><li>• Measuring, marking and cutting components accurately using a ruler and scissors.</li><li>• Assembling components accurately to make a stable frame.</li><li>• Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles.</li><li>• Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set.</li></ul>	<ul style="list-style-type: none"><li>• Using pins effectively to secure a template to fabric without creases or bulges.</li><li>• Marking and cutting fabric accurately, in accordance with their design.</li><li>• Sewing a strong running stitch, making small, neat stitches and following the edge.</li><li>• Tying strong knots.</li><li>• Decorating a waistcoat, attaching features (such as appliqué) using thread.</li><li>• Finishing the waistcoat with a secure fastening (such as buttons).</li><li>• Learning different decorative stitches.</li><li>• Sewing accurately with evenly spaced, neat stitches.</li></ul>	<ul style="list-style-type: none"><li>• Working to a given timescale.</li><li>• Working safely and hygienically with independence.</li></ul>
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	Evaluate	<ul style="list-style-type: none"><li>• Evaluating the work of others and receiving feedback on own work.</li><li>• Applying points of improvement to their toys.</li><li>• Describing changes they would make/do if they were to do the project again.</li></ul>	<ul style="list-style-type: none"><li>• Reflecting on their work continually throughout the design, make and evaluate process.</li></ul>	<ul style="list-style-type: none"><li>• Evaluating a recipe, considering taste, smell, texture and origin of the food group.</li><li>• Taste testing and scoring final products.</li><li>• Suggesting and writing up points of improvements when scoring others' dishes, and when evaluating their own throughout the planning, preparation and cooking process.</li><li>• Evaluating health and safety in production to minimise cross contamination.</li></ul>
Knowledge		<ul style="list-style-type: none"><li>• To understand that the mechanism in an automata uses a system of cams, axles and followers.</li></ul>	<ul style="list-style-type: none"><li>• To understand that it is important to design clothing with the client/ target customer in mind.</li></ul>	<ul style="list-style-type: none"><li>• To know that 'flavour' is how a food or drink tastes.</li><li>• To know that many countries have 'national dishes' which are recipes associated with that country.</li></ul>



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	<ul style="list-style-type: none"><li>• To understand that different shaped cams produce different outputs.</li></ul>	<ul style="list-style-type: none"><li>• To know that using a template (or clothing pattern) helps to accurately mark out a design on fabric.</li><li>• To understand the importance of consistently sized stitches.</li></ul>	<ul style="list-style-type: none"><li>• To know that 'processed food' means food that has been put through multiple changes in a factory.</li><li>• To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides.</li><li>• To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).</li></ul>
Vocabulary	Automata, bench hook, clamp, dowel, follower, function, mechanism, research, axle, cam, diagram, model, tenon saw, evaluate.	Annotate, design, evaluate, research, target customer, decorate, fabric, stitch.	Equipment, ingredients, research, cross-contamination, preparation, flavours, method, recipe, farm to fork, evaluate.