

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Themes		<p>Mechanisms-Moving story book</p> <p>Structures- Constructing a stable structure: London Eye</p> <p>Food -Fruit and veg: Smoothies</p> <p>Textiles-Puppets: Joining techniques</p>	<p>Structures-Baby bear’s chair.</p> <p>Textiles-Pouches: running stitch</p> <p>Food- a balanced diet: Wraps</p> <p>Mechanisms-Wheels and axles: Bathing machines</p>	<p>Mechanical system-pneumatic vehicle</p> <p>Structures-Construction using 2D/3D shapes: Roman building</p> <p>Textiles-Cushions: cross stitch</p> <p>Food-eating seasonally- Soup making</p>	<p>Food- Adapting a recipe</p> <p>Structures-Pavillions: strengthening structures</p> <p>Mechanical systems-Slingshot car: designing shapes from nets</p> <p>Electrical systems - Torches:</p>	<p>Textiles-Applique : Christmas card</p> <p>Structures-Bridges: structure that can support weight</p> <p>Mechanical Systems-Making a pop up book</p>	<p>Structures-Anderson shelters: testing and adapting a design</p> <p>Electrical systems-Steady hand game</p> <p>Mechanical systems-Automata toys: Cams/axles/frames</p> <p>Textiles-Making a waistcoat: fastenings, decoration, pattern cutting</p>
	Curriculum objectives	Designing and communicating ideas	<ul style="list-style-type: none"> Model their ideas in card and paper. Develop their design ideas applying findings from their earlier research Make adaptations eg to guide levers and when things do not work as they should Design a template 	<ul style="list-style-type: none"> Develop their design ideas through discussion, observation, drawing and modelling. Identify a purpose for what they intend to design and make. Identify simple design criteria. Make simple drawings and label parts Design an axle and wheel 	<ul style="list-style-type: none"> Identify a purpose and establish criteria for a successful product. Plan the order of their work before starting. Explore, develop and communicate design proposals by modelling ideas. Make drawings with labels when design a template before making 	<ul style="list-style-type: none"> Generate ideas, considering the purposes for which they are designing. Make labelled drawings from different views showing specific features. Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. Use budget information to cost recipes Use taste test questionnaires Draw nest to create a structure from 	<ul style="list-style-type: none"> Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail. Use results of investigations, information sources, including ICT when developing design ideas. Design a pop up book naming mechanisms correctly eg pivots, folds, sliders Design a structure using triangulation

	Making and using tools	<ul style="list-style-type: none"> • Make their design using appropriate techniques. • With help measure, mark out, cut and shape a range of materials. • Use tools eg scissors and a hole punch safely. • Assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. • Use simple finishing techniques to improve the appearance of their product. • Make an axle that turns • Use tools to chop and prepare vegetables and fruit • Cut safely using scissors • Sequence steps to construction 	<ul style="list-style-type: none"> • Begin to select tools and materials; use vocab' to name and describe them. • Assemble, join and combine materials in order to make a product. • Follow safe procedures for food safety and hygiene. • Choose and use appropriate finishing techniques • Consider how food looks and flavour combinations that appeal • Thread a needle • Pin and cut fabric • Use a running stitch to join fabric • Create joints and structures from card and paper • Strengthen materials by folding paper 	<ul style="list-style-type: none"> • Select tools and techniques for making their product. • Measure, mark out, cut, score and assemble components with more accuracy. • Work safely and accurately with a range of simple tools. • Think about their ideas as they make progress and be willing to change things if this helps them improve their work. • Demonstrate hygienic food preparation and storage. • Use finishing techniques strengthen and improve the appearance of their product. • Consider taste, smell and appearance of food • Draw and label a design eg for Roman fort • Create facades • Use 3d shapes and nets • Understand seasonality of common fruit and veg 	<ul style="list-style-type: none"> • Select appropriate tools and techniques for making their product. • Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. • Join and combine materials and components accurately in temporary and permanent ways. • Use simple graphic communication techniques.A • Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens. • Cost out ingredients and undertake taste comparisons of different brands of food • Select appropriate materials to build frame structures • Use nets to create a range of different shaped structures • Make a functioning circuit • Link knowledge gained in science to support the construction of a working artifact 	<ul style="list-style-type: none"> • Select appropriate materials, tools and techniques. • Measure and mark out accurately. • Use skills in using different tools and equipment safely and accurately. • Cut and join with accuracy to ensure a good-quality finish to the product. • Create a strong and secure blanket stitch • Thread needles independently • Understand the applique process to add decoration • Use triangles to make truss bridges • Understand the functions of wood • Make pivots, folds, sliders • Hide the working parts of a mechanism using layers and spacers 	<ul style="list-style-type: none"> • Select appropriate tools, materials, components and techniques. Cut and measure accurately • Assemble components to make working models. • Construct products using permanent joining techniques. • Make modifications as they go along. • Pin, sew and use a range of stitches to join materials together create a product. • Understand how to cut out a pattern • Understand how to use quality and secure fastenings • Use different decorative stitches • Achieve a quality finish on a product • Construct a stable base for a game • Make and test a circuit • Incorporate a circuit into the base • Create a functioning frame • Understand the need for accuracy when adding components to a frame
	Evaluating	<ul style="list-style-type: none"> • Evaluate their products as they are developed, identifying strengths and possible changes they might make and how well it works in relation to the purpose. • Evaluate their product by asking questions about what they have made and how they've gone about it Are the structures strong? 	<ul style="list-style-type: none"> • Evaluate against their design criteria. • Evaluate their products as they are developed, identifying strengths and possible changes they might make. • Talk about their ideas, saying what they like and dislike about them. 	<ul style="list-style-type: none"> • Evaluate their product against original design criteria e.g. how well it meets its intended purpose. • Disassemble and evaluate familiar products 	<ul style="list-style-type: none"> • Evaluate their work both during and at the end of the assignment. • Evaluate their products carrying out appropriate tests 	<ul style="list-style-type: none"> • Evaluate a product against the original design specification. • Evaluate it personally and seek evaluation from others. 	<ul style="list-style-type: none"> • Evaluate their products identifying strengths and areas for development, and carrying out appropriate tests. • Record their evaluations using drawings with labels. • Evaluate against their original criteria and suggest ways that their product could be improved
Vocab	Functional. Design, criteria, generate, develop, model, communicate,, technology, equipment, cutting, shaping, joining, finishing, components, textiles, ingredients, structures, stronger, stiffer, stable, mechanism		Functional. design, criteria, generate, develop, model, communicate,, technology, equipment, cutting, shaping, joining, finishing, components, textiles, ingredients, structures, stronger, stiffer, stable, mechanism, context, discussion, cross section, annotate, exploded diagrams, prototypes, pattern pieces, computer-aided design, aesthetic, construction materials, investigate, analyse, reinforce, monitor, control, seasonality, nutrition, cam, net, circuit				



Terms	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn	<p>MECHANISMS</p> <ul style="list-style-type: none"> I know that a mechanism is part of an object that moves I know that a slider is a mechanism that moves things side to side Bridges and guides help to restrict the slider 	<p>STRUCTURES</p> <ul style="list-style-type: none"> I know that structures with wide flat bases or legs are the most stable I know that materials can be manipulated to improve their strength and stiffness I know that a structure has been made from parts I know that a strong structure does not break easily I know that natural structures are found in nature and man-made structures are made by people 	<p>MECHANICAL SYSTEMS</p> <ul style="list-style-type: none"> I know that a pneumatic system draws in , releases and compresses compressed air I know that a pneumatic system can be used as part of a mechanism I can use sketches and labels to show my ideas 	<p>FOOD</p> <ul style="list-style-type: none"> I know that the amount of ingredients in a recipe is called quantity I know how to be safe when using an oven eg using oven gloves I know the cooking techniques of rubbing in, sieving and creaming I know how to budget for ingredients when making biscuits I can make changes to a basic recipe by adding other ingredients eg chocolate chips, dried fruit etc 	<p>TEXTILES</p> <ul style="list-style-type: none"> I know that blanket stitch reinforces the edges of textiles I can make a strong , neat blanket stitch I understand and can use applique techniques to enhance my finished object I can thread my own needle I can measure and cut fabric on my own 	<p>STRUCTURES</p> <ul style="list-style-type: none"> I can make a strong structure and test it I know what a prototype is and can make one I can change materials to strengthen structures eg corrugate card, laminate paper
Spring	<p>STRUCTURES</p> <ul style="list-style-type: none"> I know that a design criteria is a list of things that must be included in my product I know that axles are there to make parts turn In a circle A structure is something that has been made and put together I can use tools safely 	<p>TEXTILES</p> <ul style="list-style-type: none"> I know that sewing will join two pieces of fabric I know how to do a running stitch which is evenly spaced I know I need to tie a knot at the end of my thread I can thread a needle 	<p>STRUCTURES</p> <ul style="list-style-type: none"> I know that 2D/3D shapes can be used to construct a structure I know that that strength and stiffness of materials are important I know what a façade is. 	<p>STRUCTURES</p> <ul style="list-style-type: none"> I know a free standing structure can stand on its own I can make a structure stronger and or more attractive by adding cladding I can make a frame structure 	<p>STRUCTURES</p> <ul style="list-style-type: none"> I know how to reinforce structures I know how triangles are used to reinforce bridges I know the difference between an arch, truss and suspension bridge I can select appropriate 	<p>ELECTRICAL SYSTEMS</p> <ul style="list-style-type: none"> I can use my knowledge of electrical circuits to design a game I know what ‘fit for purpose’ means and that my game should work I can incorporate a circuit into a base and make sure I

		<ul style="list-style-type: none"> I can protect my fingers by using a thimble <p>FOOD</p> <ul style="list-style-type: none"> I know what a balanced diet is I understand that I should eat a range of foods to remain healthy I can slice food safely using a claw grip or bridge grip I know that nutrients are found in foods I know that food can contain hidden sugars 			<p>materials to make a bridge</p> <ul style="list-style-type: none"> I can suggest improvements to my own and others work 	achieve a high quality finish
Summer	<p>FOOD</p> <ul style="list-style-type: none"> I know the difference between a fruit and a vegetable I know what a blender does I know that fruits have seeds and vegetables do not <p>TEXTILES</p> <ul style="list-style-type: none"> I know that a joining technique means connecting two pieces of material together I know that temporary methods of joining fabric might be staples. Glue or pins I understand that a template is a pattern that can be used to cut out the same shape several times I will know that drawing a design will show how an idea will look 	<p>MECHANISMS</p> <ul style="list-style-type: none"> I know that mechanisms are a collection of moving parts that work together to produce movement I know that different materials have different properties e.g. waterproofing and are therefore suitable for different uses I can make a simple frame and axle I can follow instructions I can work to fix my mechanism if it doesn't work as it should 	<p>FOOD</p> <ul style="list-style-type: none"> I know that fruit and vegetables are seasonal and require different conditions to grow eg climate, I can follow a recipe I know how to be hygienic when handling food I can prepare vegetables safely I can use a range of kitchen utensils eg grater, knife, masher, blender <p>TEXTILES</p> <ul style="list-style-type: none"> I know that when two edges of fabric are joined it is called a seam I know it is important to leave a space for the seam I know that when the products turned inside out after sewing, the stitching is hidden. I can use different things for decoration 	<p>MECHANICAL SYSTEMS-</p> <ul style="list-style-type: none"> I know what kinetic energy the energy is an object/ person has by being in motion I know that air resistance is the level of drag an object has as its forced through the air I understand what a net is and how I can make different shaped nets I can use tools effectively and accurately to make a moving object <p>ELECTRICAL SYSTEMS</p> <ul style="list-style-type: none"> Can make a working circuit I know the names of different components in a circuit I know batteries contain acid and can 	<p>MECHANICAL SYSTEMS</p> <ul style="list-style-type: none"> I know that mechanisms can change one kind of motion into another I can use pivots, sliders and folds to create paper-based mechanisms I can make my work more aesthetically pleasing by hiding the mechanisms 	<p>TEXTILES</p> <ul style="list-style-type: none"> I can design clothing with a customer in mind I can use a template to cut out a design and can use it many times I can use a variety of neat, effective stitches I can use pins to attach a template or pattern I can use many skills to enhance my product eg applique, embroidery, adding fastenings <p>MECHANICAL SYSTEMS</p> <ul style="list-style-type: none"> I know that automata is a hand powered mechanical toy

				<p>be dangerous if they leak</p> <ul style="list-style-type: none">• I can design a product taking into consideration its primary function		<ul style="list-style-type: none">• I know that the mechanism in an automata uses a system of cams, axles and followers• I can use a bench hook and saw safely• I know that different shaped cams produce different out puts eg off centred cams
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