

Year Group	Design	Make	Evaluate	Technical Knowledge	Cooking & Nutrition
N	<p>Is able to follow directions (if not intently focused on own choice of activity) (C&L - Listening, attention and understanding) Responds to simple instructions (C&L - speaking) Understands that equipment and tools have been used safely. (Physical development - Fine motor skills) Explore different materials freely, in order to develop their ideas about how to use them and what to make. (Understanding the world) Develop their own ideas and then decide which materials to use to express them. (Understanding the world) Create closed shapes with continuous lines, and begin to use these shapes to represent objects. (Understanding the World)</p>	<p>Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. (Mathematics - numerical patterns) Uses various construction materials. (Expressive arts & design - exploring & using media & materials) Beginning to construct, stacking blocks vertically and horizontally, making enclosures and creating spaces. (Expressive arts & design - creating with materials/being imaginative and expressive) Joins construction pieces together to build and balance. (Expressive arts & design - creating with materials) Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them. (Physical, Social & Emotional development) Use large-muscle movements to wave flags and streamers, paint and make marks. (Physical development) Choose the right resources to carry out their own plan. (Physical development) Use one-handed tools and equipment, for example, making snips in paper with scissors. (Physical development) Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. (Understanding the World)</p>	<p>Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall' (Mathematics - numerical patterns) Beginning to be interested in and describe the texture of things. (Expressive arts & design - creating with materials/being imaginative and expressive) Explore how things work. (Understanding the World)</p>	<p>Knows how to operate simple equipment. (Understanding the world - Past and present) Shows an interest in technological toys with knobs or pulleys, or real objects. (Understanding the world - Past and present) Shows skill in making toys work by pressing parts of lifting flaps to achieve effects such as sound, movement or new images. (Understanding the world - Past and present)</p>	<p>Can usually manage washing and drying hands. (Personal, social and Emotional Development - managing self) To peel by hand e.g satsuma, banana To shape play dough by hand and with a rolling pin with accuracy for a desired effect With supervision get ready to cook by:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Tying hair back • Putting on a clean apron • Washing and drying hands

R	<p>Links statements and sticks to a main theme or intention. (C&L - speaking)</p> <p>Uses talk to organise, sequence and clarify thinking, ideas, feelings and events. (C&L - speaking)</p> <p>Creates simple representations of events, people and objects. (Expressive a&d - Being imaginative)</p> <p>Chooses particular colours to use for a purpose (Expressive a&d - being imaginative)</p>	<p>Experiments to create different textures. (Expressive a&d - Creating with materials/being imaginative and expressive)</p> <p>Understands that different media can be combined to create new effects. (Expressive a&d -creating with materials)</p> <p>Manipulates materials to achieve a planned effects. (Expressive a&d - creating with materials/being imaginative and creative)</p> <p>Constructs with a purpose in mind, using a variety of resources. (Expressive a&d - creating with materials/being imaginative and expressive).</p> <p>Progress towards a more fluent style of moving, with developing control and grace. (Physical development)</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently. (Physical development)</p> <p>Use their core muscle strength to achieve a good posture when sitting at a table or sitting on the floor. (Physical development)</p> <p>Create collaboratively, sharing ideas, resources and skills. (Expressive arts and design)</p> <p>Use a range of small tools, including scissors, paintbrushes and cutlery. (ELG Physical Development)</p> <p>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. (ELG Expressive arts and design)</p>			<p>Explains own knowledge and understanding, and asks appropriate questions of others. (PS&ED - building relationships relationships)</p> <p>Selects appropriate resources and adapts work where necessary. (Expressive a&d - creating with materials/being imaginative and expressive)</p> <p>Explore, use and refine a variety of artistic effects to express their ideas and feelings. (Physical development)</p> <p>Return to and build on their previous learning, refining ideas and developing their ability to represent them. (Expressive arts and design)</p> <p>Share their creations, explaining the process they have used. (ELG Expressive arts and design)</p>	<p>Eats a healthy range of foodstuffs and understands need for variety in food. (PS&ED - managing sel)</p> <p>Shows some understanding that good practices with regard to eating and hygiene can contribute to good hygiene. (PS&ED - managing sel)</p> <p>To be able to use scissors to snip foods e.g. fresh herbs</p> <p>To be able to use a knife to cut play dough To use a fork to secure foods, To use a butter knife to spread soft ingredients e.g butter / margarine</p> <p>To thread soft foods onto cocktail stick</p>
	Textiles	Electrical Systems	Mechanisms	Structures and Construction	Food	
1	To make a Christmas card stocking		To make a book with moving parts	During CIL	To make a selection of dips.	

	<p>Design & Evaluate: Design and plan the decoration for a particular user based on simple design criteria. decorating with fabric paints, printing or adding buttons, sequins and beads with glue. Evaluate against the original design criteria and intended purpose. Skill: drawing around a template and cutting the fabric. Joining the fabric with glue, staples and tape</p> <p>Knowledge: To know how to join a range of fabrics</p>		<p>Design & Evaluate: Generate initial ideas and design criteria through own experiences. Explore and talk about books containing flaps and moving pictures. Skill: Construct a simple lever with support. Construct a simple slider independently. Join levers to make linkages to create moving parts. Knowledge: Deconstruct a simple slider and describe how it works.</p>	<p>Explore and investigate a range of simple, large scale construction materials, e.g. cardboard boxes. Explore building, bridges and towers using large and smallscale construction materials, e.g. Duplo, cardboard boxes. Make simple 2D structures using straws.</p>		<p>Skills: Use the basic principles of a healthy and varied diet to prepare dishes To weigh and measure by counting ingredients and using different size measuring spoons To be able to use a grater to grate soft foods e.g. cheese, cucumber To be able to cut e.g. soft foods with butter or table knife e.g. banana, canned peach slices into equal pieces To loosely combine ingredients e.g. mash or whisk ingredients together using a fork, rub in fat to flour and knead dough Spoon ingredients between containers accurately To use a swivel peeler with adult support Use a juicer to extract juice Be able to prepare food for baking and frying such as greasing baking tins and adding oil to frying pans / Saucepans Knowledge: Understand that food can be grown or comes from animals. To know that ingredients can be measured in simple fractions e.g. half, quarter To know that foods can be heated and that this can change the texture and consistency of some foods To know that some foods can only be safely eaten when cooked. To know the reasons for basic hygiene when cooking</p>
Vocab	<p>planning, investigating design, evaluate, make, user, purpose, ideas, product, Mechanisms: slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, Food: measure, mix, snip, cut, grate, peel, Textiles: join, fabric, cut, attach, glue, staple</p>					

2	<p>To make a Christmas decoration:</p> <p>Design & Evaluate: Develop, model and communicate their ideas through talking, mock-ups and drawings.</p>			<p>To make a free standing structure -Throne for a Monarch</p>	<p>Design and Evaluate: Select new and materials, components, reclaimed materials</p>	<p>To make: healthy muffins (sweet or savoury) Skills: Mix, stir and combine liquid and dry ingredients (eg muffins)</p>
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	<p>Select and use tools, equipment, skills and techniques to perform practical tasks, explaining their choices.</p> <p>Explore a range of existing products related to their design criteria.</p> <p>Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</p> <p>Skill: Joining and decorating fabrics with running stitch, glue, staples, over sewing, tape</p> <p>To select and use tools and materials appropriate to the product</p> <p>Knowledge: to know that running stitch can be used to join fabrics.</p>			<p>Design and Evaluate: Explore a range of existing products related to their design criteria. Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.</p> <p>Skills: Construct a range of simple structures using simple construction kits.</p> <p>Make a square frame from strip wood using triangular card joints.</p> <p>Make a simple card hinge.</p> <p>Knowledge: To know that you can make a structure more stable by widening the base.</p>	<p>and construction kits to build and create their products. Use simple finishing techniques suitable for the products they are creating. Skills: Use a range of materials to create models with wheels and axles e.g. tubes, dowel, cotton reels</p> <p>Attach wheels to a chassis using an axle</p> <p>Mark out materials to be cut using a template</p> <p>Cut strip wood/dowel using hacksaw and bench hook</p> <p>See glue gun used by an adult</p> <p>Knowledge: To know that different joining techniques can be used for different materials and purpose.</p>	<p>Use hands to rub fat into flour (eg rock buns) crack an egg and beat together using a fork</p> <p>With supervision: use the bridge hold to cut harder foods using a serrated vegetable knife (eg apple)</p> <p>Use the claw grip to cut soft foods using a serrated vegetable knife (eg tomato)</p> <p>Use a melon baller to core an apple</p> <p>Independently sift flour into bowl.</p> <p>Use hands to shape dough in to small balls or shapes</p> <p>assemble and arrange cold ingredients (eg sandwich, fruit kebabs, bruschetta)</p> <p>Drain away liquids from packaged food using a sieve or colander (eg tuna or sweetcorn)</p> <p>Knowledge: Understand how everyday foods are stored differently to ensure they are safe to eat, (e.g. fridge or freezer).</p> <p>To understand that different foods come from around the world</p>
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Vocab	Investigating, planning, design, make, evaluate, user, purpose, ideas, design criteria, product, function Structures: cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, Textiles: join, fabric, cut, attach, glue, staple, stitch, running stitch, Food: measure, mix, snip, cut, grate, peel, stir, combine, rub, beat, drain
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3			<p>To make a catapult Topic link: The Romans Design and Evaluate: Generate and clarify ideas through discussion with peers to develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work Skills: Deconstruct and reconstruct a range of sliders and levers. Vary the position of the pivot point to lift a load using a lever. Construct a pneumatic with two moving parts. Knowledge: Identify the cam within a simple mechanism and explain how movement is changed.</p>	<p>Design & Evaluate: Plan the main stages of making. Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work Skills: Deconstruct and assemble the net of basic 3D shapes. Strengthen 2D frames by adding diagonal bracing struts. Make a rectangular frame from strip wood reinforcing with cross braces. Use materials to make simple joints - glue, tape and paper clips. Join 2D frames to create 3D structures. Knowledge: To know how to draw a net for basic 2D shapes. To know how to strengthen 2D frames.</p>	<p>To make a shell structure: (projects on a page). Topic: Stone Age Skills: Create shell or frame structures, strengthen frames with diagonal struts Make structures more stable by giving them a wide base Prototype frame and shell structures Measure and mark square selection, strip and dowel accordingly to 1cm Use glue gun with close supervision (one to one)</p>	<p>To make a pizza from scratch inc dough, sauce and toppings. Skills: Begin using a measuring jug with support to obtain accuracy Begin using digital scales with support to obtain accuracy Snip with greater dexterity and control e.g. to shred lettuce or cabbage leaves for salad Placing the cutter in positions to make good of the food available and avoid waste. Use the claw grip to cut harder foods using a serrated vegetable knife (eg carrot) Crush garlic using a garlic press Spread ingredients evenly over another food Whisk food using a hand whisk Be able to use two spoons to transfer ingredients into different size/shape containers with minimal spillage e.g. liquid foods into baking cases To create visually appealing products Knowledge: To know how to prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality and know where and how a variety of ingredients are grown, reared and caught Know how to handle hot food safely once adults have removed food from the hob or oven (e.g. use oven gloves and a fish slice)</p>
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Vocab	user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing Mechanical systems - levers mechanism, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear, rotary, oscillating, reciprocating Structures/construction: shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype Food :measure, mix, snip, cut, grate, peel, stir, combine, rub, beat, drain, crush,
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4	<p>To make a book mark:</p> <p>Design & Evaluate: Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.</p> <p>Skill: Join fabrics using running stitch, over sewing, back stitch</p> <p>Use appropriate decoration techniques e.g. appliqué (glued or simple stitches)</p> <p>Knowledge: To understand the need for and know how to create patterns.</p>	<p>To make simple circuits and switches (project on a page)</p> <p>Design & Evaluate: To understand the role of electricity in everyday objects and to design and make a model containing electrical circuits to fulfil a function. Containing a bulb or buzzer.</p> <p>To think of ways in which adding a circuit would improve their product</p> <p>Skill: To be able to generating static electricity independently and use it to make objects move in a desired way To make a product which uses both electrical and mechanical components</p> <p>Knowledge: To know that mechanical and electrical systems have an input, process and output Understanding what static electricity is and how it moves objects through attraction or repulsion To know that a battery contains stored electricity and can be used to power products To know what electrical conductors and insulators are</p>				<p>To make: Biscuits</p> <p>Skills: Mix, stir and combine wet and dry ingredients uniformly (eg to form a dough) Cream fat and sugar together using a mixing spoon Independently sieve flour, raising agents and spices together in to a bowl Crack an egg and beat with balloon whisk Use a toaster or microwave or oven to heat, cook or melt food.</p> <p>Knowledge: To understand and apply the principles of a healthy and varied diet Understand how bacteria in food can cause food poisoning or food to go mouldy.</p>
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Vocab	evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations Electrical systems: series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, Food: measure, mix, snip, cut, grate, peel, stir, combine, rub, beat, drain, crush, sieve, crack, bacteria, Textiles: join, fabric, cut, attach, glue, staple, stitch, running stitch, cross section, applique, back stitch, over sewing
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5	<p>To make a reusable bag:</p> <p>Design & Evaluate: Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views, and, where appropriate, computer-aided design</p> <p>Understanding pattern layout</p> <p>Prototype a product using J cloths</p> <p>Investigate and evaluate a range of products including the ingredients, materials, components and techniques that are used.</p> <p>Skill: Create 3D products using pattern pieces and seam allowance</p> <p>Pin and tack fabric pieces together</p> <p>Join fabrics using over sewing, back stitch, blanket stitch</p> <p>Use fastenings and recreate some e.g. sew on buttons and make loops, zips, velcro, buckles</p> <p>Decorate textiles appropriately often before joining components</p> <p>Knowledge: To understand and use the properties of materials to achieve functioning solutions.</p>		<p>To make a mechanical poster.</p> <p>Design and Evaluate:</p> <p>Generate questions to investigate and compare the efficiency of pneumatic systems. Analyse and evaluate the efficiency of pneumatic systems.</p> <p>Skills: Combine sliders and levers to produce a range of movements. Choose and use a range of sliders and levers accurately to create a range of effects.</p> <p>Knowledge:</p> <p>Describe the way in which a cam changes rotary motion into linear motion.</p> <p>Discuss the relationship between a cam and follower, an off-centre cam, a peg cam, a pearshaped cam and a snail cam Use a range of technical vocabulary to describe the properties and functions of mechanisms.</p>	<p>Design & Evaluate:</p> <p>Use research using surveys, interviews, questionnaires and web-based resources, to develop a design specification for a range of functional products. Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests. Test the system to demonstrate its effectiveness for the intended user and purpose. Skills: Create nets and templates accurately in a range of sizes Use a range of materials to make joints e.g., card strips, elastic bands, thread and ties, and plastic tubing Investigate measure and record the load tolerance of different structures and find ways of improving a structures loadbearing capacity.</p>	<p>To make: a bird hide/house bug house</p> <p>Skills: Use bradawl to mark hole positions</p> <p>Use hand drill to drill tight and loose fit holes Cut strip wood, dowel, square section wood accurately to 1mm</p> <p>Join materials using appropriate methods</p> <p>Use a cam to make an up and down mechanism. Build frameworks using a range of materials e.g. wood, card corrugated plastic to support mechanisms</p> <p>Use glue gun with close supervision</p>	
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				Knowledge: To know a range of increasing methods to strengthen 3D structures and frames.		
Vocab	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype Mechanical systems: Mechanism, lever, linkage, design brief, generate, loose/fixed pivot, guide/bridge, system, input, output, components, Textiles: join, fabric, cut, attach, glue, staple, stitch, running stitch, cross section, applique, back stitch, over sewing					

6	<p>Make do and Mend</p> <p>Design & Evaluate: Develop a simple design specification to guide the development of ideas and products, taking account of constraints including time, resources and cost.</p> <p>Test the system to demonstrate its effectiveness for the intended user and purpose.</p> <p>Skill: Combine fabrics to create more useful properties</p> <p>Join fabrics using hand or machine stitching</p> <p>Use fastenings and recreate some that are relevant and useful to the product.</p> <p>Decorate textiles appropriately often before joining components applying previous taught skills.</p> <p>Competently select from and use appropriate tools to accurately measure, mark, cut and assemble materials to produce reliable, functional products.</p> <p>Knowledge: To be able to create fastenings for a purpose.</p>	<p>To make: more complex switches and circuits (projects on a page)</p> <p>Design & Evaluate: To create a functioning circuit including a switch and motor in a circuit and understand the difference between series and parallel circuits.</p> <p>Know that batteries contain acid, which can be dangerous if they leak</p> <p>Learning that when electricity enters a magnetic field it can make a motor</p> <p>Communicate ideas through annotated sketches, pictorial representations of electrical circuits or circuit diagrams.</p> <p>Skills: Competently select from and use appropriate tools and assemble materials and securely connect electrical components to produce reliable, functional products</p> <p>Knowledge: To understand how more complex</p>				<p>To make: A sweet and savoury dish that would exemplify a healthy meal.</p> <p>Skills: Using a measuring jug independently and accurately Using digital and analogue scales accurately and independently</p> <p>Using the zesting part of a grater and a nutmeg grater</p> <p>Cut higher resistance food with a vegetable knife using the claw grip and bridge hold e.g. celery and onion Use a can opener and open ring-pull tin Dice foods and cut them into evenly sized, fine pieces (eg garlic, vegetable batons, herbs)</p> <p>Peel harder food Using a peeler (eg apple, potato)</p> <p>Fold ingredients together carefully To be able to gauge the quantities spooned to ensure an equal amount of ingredient in each container With <u>close</u> supervision use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (eg chickpeas for hummus or vegetables for soup)</p> <p>With <u>moderate</u> supervision with help begin to separate eggs, whisk using an electric hand mixer</p> <p>Independently separate eggs</p> <p>Whisk using an electric hand mixer (eg eggs)</p>
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	<p>To be able to cost a product in the design stage.</p>	<p>electrical circuits and components can be used to create functional products. To know that graphite is a conductor and can be used as part of a circuit Understand how electromagnetic motors work and that switches are a break in the circuit. Know that batteries contain acid, which can be dangerous if they leak Learning that when electricity enters a magnetic field it can make a motor</p>				<p>Cream fat and sugar together using an electric hand mixer Use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (eg chickpeas for hummus or vegetables for soup) Use a rolling pin to roll out dough to a specific thickness (eg pizza) Use biscuit cutters accurately assemble, arrange and layer more advanced dishes (eg apple sponge pudding, shepherd's pie) Spread food evenly with a coating, paste or glaze Use a swivel peel to create food ribbons to be used in a dish Knowledge: Understand the need for food safety practices when getting ready to store, prepare and cook food (e.g keep raw meats away from other food) To know that there are a variety of methods and techniques to achieve different cooking results. To know the constituents of a healthy diet and have a basic knowledge of the food groups.</p>
<p>vocab</p>	<p>function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype Electrical systems: series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart Construction/shelters: frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent Food: measure, mix, snip, cut, grate, peel, stir, combine, rub, spread, beat, crack, drain, crush, sieve, bacteria, separate, claw grip, whisk, blend, mash, bridge grip, dice Textiles: join, fabric, cut, attach, glue, staple, stitch, running stitch, cross section, applique, back stitch, over sewing, fastening, assembly, functioning,</p>					