Key Vocabulary	**Reception Vocabulary** Cut, stick, edge, snip, material, choosing, shapes, texture, join, make, tools, assemble, fabric, card, glue, bend, fold, mix **Year 1 & 2 Vocabulary** Design, technology, product, user, ideas, prototypes, mechanisms, slides, levers design, make, evaluate, user, purpose, ideas, design criteria, product, function, slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, cut, fold, assembling, join, fix, finishing, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, vehicle, wheel, axle, axle holder, chassis, body, cab, free, moving, mechanism, names of tools, textile tools (e.g. needles, thread), fabric names (e.g. wool, thread, felt) and components (e.g. buttons, sequins), template, pattern pieces, mark out, join, decorate, finish, fruit and vegetable names, names of equipment and utensils, sensory vocabulary (e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard), flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, grating, bridge & claw grip, measuring, cracking, beating, dividing, snipping, healthy diet, choosing, ingredients, investigating, tasting, arranging. **Year 3 & 4 Vocabulary** shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, design brief/design criteria, innovative, prototype, fastening, compartment, zip, finishing technique, strength, weakness, stiffening, stitch, seam, seam allowance, purpose, model, prototype, annotated sketch, functional, investigate, label, drawing, aesthetics, linkage, loose/fixed pivot, system, input, process, output, linear, rotary, oscillating, reciprocating, 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, techniques and ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, varied diet, scooping; rubbing; mixing to form a dough; shaping; glazing weighing, creaming, folding in, scraping,			
Year group	Year 3 Progression of techniques	Year 3 Teaching opportunities	Year 4 Progression of techniques	Year 4 Teaching opportunities
Topic areas under headings: Design & Make and Cooking & Nutrition	**Structures – Shell Structures** Suggested/current project: Christmas Boxes (use Word/CAD -see EC) **Mechanical Systems – Levers and Linkages** Suggested/current project: Pop-Up book/greetings card (Projects on a page 3-4 Levers & Linkages) **Healthy and varied diet** Suggested/current project: Butternut and thyme scones		**Textiles – 2D Shape to 3D project** Suggested/current project: Apron? **Electrical Systems – Simple Circuits and Switches** Suggested/current project: Electrical light up/noisy toy **Healthy and varied diet** Suggested/current project: Chocolate Courgette Cake	
Designing *This could be spread across three lessons/sessions or completed in one lesson/session* Background Research - Exploring context and existing products Design Criteria - Understanding their intended users and their own product	a. Exploring context and existing products Identify who made the product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use b. Understanding their intended users and their own product Describe the purpose of their product and how it will work Identify design features that will appeal to_intended users Explain how parts of their product works Generate realistic ideas that meet needs of user c. Communicating ideas and creating prototypes for the product Share and discuss ideas with others	a. Structures: Children investigate a collection of different shell structures including packaging. Use questions to develop children's understanding e.g. What is the purpose of the shell structure – protecting, containing, presenting? What material is it made from? How has it been constructed? Are the materials recyclable or reusable? How has it been stiffened i.e. folded, corrugated, ribbed, laminated? What size/shape/colour is it? What information does it show and why? How attractive is the design? Mechanical: Explore a range of pop-up books and cards. How do we think they work? Who is the audience? How are they illustrated? b. Structures: Children take a small package apart identifying and	a. Exploring context and existing products Identify who made the product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use b. Understanding their intended users and their own product Describe the purpose of their product Identify design features that will appeal to intended users Explain how parts of their product works Develop their own design criteria and use for planning ideas Generate realistic ideas that meet needs of user and take into account availability of resources c. Communicating ideas and creating prototypes for the product	aTextiles: Look at a range of aprons. What are they made of? How are they fastened? Why do we wear aprons? What sort of material are they made from? Electrical: Discuss, investigate and, where practical, disassemble different examples of relevant battery-powered products, including those which are commercially available e.g. Where and why they are used? How does the product work? What are its key features and components? How does the switch work? Is the product manually controlled or controlled by a computer? What materials have been used and why? How is it

Planning – Communicating ideas and creating prototypes for the product	Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	discussing parts of a net including the tabs e.g. How are different faces of the package arranged? How are the tabs used to join the 'free' edges of the net? Mechanical: Design their own mini-pop up book pages or greetings card, linked to topic/ class reader/festival as teacher requires. Who will read their book/receive card? c. Structures: Children use kit parts with flat faces to construct nets e.g. polydron. Practise using computer-aided design (CAD) software to design the net, text and graphics for their products according to purposes. Mechanical: Work in table groups/pairs to design working models of various levers and linkages (see page 2 pdf Projects on a page for illustrations – theses could be printed and provided to children to try to create) Children will need lots of card strips, masking tape, split pins and safe modelling of how to make holes in card using blutack ball and pencil. Practice adding pictures to output levers. Can children think of a way these pictures can be hidden, then revealed? Ensure all children get to explore all prototypes.	Share and discuss ideas with others Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams, annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	suited to its intended user and purpose? b. Textiles: What will your apron be used for? How will we make sure it is the right size? Electrical: Ask children to investigate examples of switches, including those which are commercially available, which work in different ways e.g. push-to-make, push-to-break, toggle switch. Let the children use them in simple circuits e.g. How might different types of switches be useful in different types of products? Design a night light/ head torch c. Textiles: Invite chdn in table groups/pairs on large sheets of paper/newspaper to draw out 2D shape of an apron. Cut out, does their 2D pattern piece work? Electrical: Discuss with children the purpose of the battery-powered products that they will be designing and making and who they will be for. Ask the children to generate a range of ideas, encouraging realistic responses. Agree on design criteria that can be used to guide the development and evaluation of the children's products, including safety features. Ask the children to make a variety of switches by using simple classroom materials e.g. card, corrugated plastic, aluminium foil, paper fasteners and paper clips. Encourage children to make switches that operate in different ways e.g. when you press them, when you turn them, when you push them from side to side. Ask the children to test their switches in a simple series circuit.

Making & Technical Knowledge Selecting the tools and applying the practical skills and techniques	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques, including skills learnt in Art with some accuracy	Structures: Practise making nets out of card, joining flat faces with masking tape to create 3-D shapes. Demonstrate how to use different ways of stiffening and strengthening their shell structures e.g. folding and shaping, corrugating, ribbing, laminating. Mechanical Answer -which lever and linkage mechanism will work best for my greetings card/topic page? How will I ensure my product is well presented? Incorporate aesthetic elements for finishing.	Across KS2: Use materials - construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques, including skills learnt in Art with some accuracy	Textiles: Demonstrate a range of stitching techniques and allow children to practise sewing two small pieces of fabric together, demonstrating the use of, and need for, seam allowances. Provide a range of fabrics – children to consider whether fabrics are suitable for the chosen purpose and user. The fabrics also can be used for demonstrating and testing out a range of decorative finishing techniques e.g. appliqué, embroidery, fabric pens/paints, printing Electrical ;Demonstrate how to find a fault in a simple circuit and correct it, giving pupils opportunities to practise. To reduce the number of requests for help, model the fault-finding process: check all the connections, ensure that bulbs are screwed in tightly and ensure that components are correctly connected. Have a 'working' circuit set up so that children can test suspect components.
Evaluating Referring to planning and initial ideas in evaluating their product	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	Structures: Was box fit for purpose? Consider having a gallery walk about, with children feeding back on a sheet of paper next to each box. Mechanical – Evaluating the greetings card with the intended user and against design criteria.	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	Textiles: Plan a task in which aprons will be needed e.g. painting. Do aprons serve their purpose? Electrical - Will the night light meet the needs of the user and achieve its purpose?
Cooking & Nutrition All KS1 Understanding food and food preparation	a. Understanding food and food preparation Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe Understand that recipes can be changed by adding or taking away ingredients Understand that the seasons can affect food produce	Children can analyse existing products using sensory evaluations and record their results in a table. Explain that tasting is not the same as eating. Provide kitchen towel so children can spit out food they do not	a. Understanding food and food preparation Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe Understand that recipes can be changed by adding or taking away ingredients Understand that the seasons can affect food produce	Children can analyse existing products using sensory evaluations and record their results in a table. Explain that tasting is not the same as eating. Provide kitchen towel so children can spit out food they do

Food preparation, cooking and nutrition	b. Food preparation, cooking and nutrition Sort foods into the 5 groups using The Eatwell Plate and identify that this makes up a healthy diet Identify that food and drink are needed to provide energy for a healthy and active lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking	like. Provide water to cleanse palette between tasting products. Find out how a variety of ingredients used in products are grown and harvested, reared, caught and processed e.g. Where and when are the ingredients grown? Where do different meats/fish/cheese/eggs come from? How and why are they processed? Children investigate a range of food products e.g. the content of their lunchboxes over a week, a selection of foods provided for them, food from a visit to a local shop. Link to the principles of a varied and healthy diet using The eatwell plate e.g. What ingredients have been used? Which food groups do they belong to? What substances are used in the products e.g. nutrients, water and fibre?	b. Food preparation, cooking and nutrition Sort foods into the 5 groups using The Eatwell Plate and identify that this makes up a healthy diet Identify that food and drink are needed to provide energy for a healthy and active lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking	not like. Provide water to cleanse palette between tasting products. Find out how a variety of ingredients used in products are grown and harvested, reared, caught and processed e.g. Where and when are the ingredients grown? Where do different meats/fish/cheese/eggs come from? How and why are they processed? Children investigate a range of food products e.g. the content of their lunchboxes over a week, a selection of foods provided for them, food from a visit to a local shop. Link to the principles of a varied and healthy diet using The eatwell plate e.g. What ingredients have been used? Which food groups do they belong to? What substances are used in the products e.g. nutrients, water and fibre?