Year 1			
Concept	**Autumn**	**Spring**	**Summer**
	Food Fruit kebabs	**Construction** Free standing structure – bridge	**Mechanics** Moving Picture
Famous inventor/ designer	Mary Berry	Isambard Kingdom Brunel	George Stephenson
Design	Design products that have a clear purpose and an intended user. Draw and label a picture.		
Make	Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients.	Cut materials safely using tools provided. Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).	Create products using levers, wheels and winding mechanisms.
Evaluate	To talk about what they like / dislike about their design. Explore objects and designs to identify likes and dislikes of the designs. To talk about what they would do differently. To talk about what went well with their design.		
Technical knowledge	To name the food groups To know where fruit comes from.	To build a bridge, exploring how they can be made stronger, stiffer and more stable	To identify levers, wheels and winding mechanisms.
Vocabulary	Grow, world, tree, ground, Fruit names, varied, healthy, Design, produce, label, talk about, intended user, draw, diagram,	Bridge, Transport, Brunel, engineer, local, world, design, materials, structure, evaluate.	Lever, slider, plan, equipment, design, move, evaluation, talk, ideas, likes and dislike, identify, change

	Cut, peel, recipe, measure, hygiene, weigh,Talk about, like/dislike, improvements		

Year 2			
Concept	**Autumn**	**Spring**	**Summer**
	Food Rainbow Couscous	**Textiles** Make a Bookmark	**Construction** Make a chair
Famous inventor/ designer	Jamie Oliver	Jan Constantine	Charles Rennie Mackintosh
Design	Design products that have a clear purpose and an intended user. Ensure the products are appealing and functional. Draw and label a picture. Use ICT to make a design brief where possible.		
Make	Cut, peel or grate ingredients safely and hygienically. Measure or weigh using measuring cups or electronic scales. Assemble or cook ingredients To alter and refine the recipe as they make the couscous	Shape textiles using templates. Join textiles using running stitch. Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).	Cut materials safely using tools provided. Measure and mark out to the nearest centimetre. Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).

Evaluate	To talk about what they like / dislike about their design. Explore objects and designs to identify likes and dislikes of the designs. To talk about what they would do differently. To talk about what went well with their design against the design criteria.		
Technical knowledge	To name the food groups. To know where vegetables come from.	To know what a running stich is and when it is appropriate to use and give reasons for this.	To know how to join and strengthen materials.
Key Vocabulary	Root vegetable stem, flower Sensory Vocabulary E.g. Soft, Juicy, Crunchy, Sweet, Sticky, Smooth, Sharp, Crisp, Sour, Hard Appealing, Functional, Develop Combine, evaluate	Design, purposeful, functional, appealing, product, design criteria, generate, templates Stitch, Feature, Plan, Colour scheme, Running stitch, Binca. Thread , Needle , style, materials, evaluate Feedback. improve, threading	Style, fabric, base, decorate, mark out, edges, fold, fix, framework, straight, surface. Talk about, like/dislike, improvements, evaluate, more stable, stiffer, stronger

Year 3			
Concept	**Autumn**	**Spring**	**Summer**
	<u>Food</u> Healthy Sandwich	<u>Mechanics</u> Moving vehicle	<u>Construction</u> Photo Frame
Famous inventor/ designer	John Montagu	Beatrice Schilling	Jasper Conran
Design	Design with purpose by identifying opportunities to design. Make products by working efficiently (such as by carefully selecting materials). Ensure designs have a clear, fit for purpose and intention. Create designs which inspire the intended user. Develop and generate ideas during design and include annotated designs/ exploded diagrams.		

Make	Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Assemble ingredients	Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques.
		<u>Materials</u> Cut materials accurately and safely by selecting appropriate tools. Measure and mark out to the nearest millimetre. Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs). Select appropriate joining techniques	
Evaluate	To investigate a range of products, talk about what they like / dislike about the products. To talk about what went well with their design against the design criteria. What would the intended user evaluate the design/ product? How would you improve your product?		
Technical knowledge	Explore and use some of the healthy principles of a healthy a diet. To understand how bread is made. To understand hygiene requirements when preparing food.	To understand and use a mechanical movement in my product.	To know how to make a circuit.
Key Vocabulary	Food groups, fillings, Design, intended user, annotated, fit for purpose, criteria, generate Hygiene, safety, gram, assemble, fill combine Flour, wheat, knead, bake, yeast, rise, ingredients, spread	levers, pulleys, gears, winding mechanisms, m movement, wheels and axles. Force, pulley, mechanics techniques, Purpose audience, structure, innovate, functional, appealin, fit for purpose, investigate, analyse ,mechanical systems	Purpose audience, structure, innovate, functional, appealing , fit for purpose, investigate, analyse, Battery, battery holder, crocodile clip, fault, parallel & series circuit, switch, relevant, assemble, bulb, evaluate, invent, inspire,circuit diagram, conductor,

<table>
<tr><th colspan="4">Year 4</th></tr>
<tr><th>Concept</th><th>Autumn</th><th>Spring</th><th>Summer</th></tr>
<tr><td></td><td><u>Food</u>
Apple Crumble</td><td><u>Textiles</u>
Cushion</td><td><u>Electronics</u>
Make a torch</td></tr>
<tr><td>Famous inventor/ designer.</td><td>Pierre Herme</td><td>Claudia Owen</td><td>Ingo Maurer</td></tr>
<tr><td>Design</td><td colspan="3">Improve upon existing designs, giving reasons for choices.
Disassemble products to understand how they work.
Design with purpose by identifying opportunities to design.
Make products by working efficiently (such as by carefully selecting materials).
Refine work and techniques as work progresses, continually evaluating the product design.
To produce an exploded diagram, clearly showing the circuit diagram.</td></tr>
<tr><td rowspan="2">Make</td><td rowspan="2">Prepare ingredients hygienically using appropriate utensils.
Measure ingredients to the nearest gram accurately.
Follow a recipe.
Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking)</td><td>Understand the need for a seam allowance.
Join textiles with appropriate stitching.
Select the most appropriate techniques to decorate textiles.</td><td>Create series and parallel circuits.
To understand the basic components used in a circuit diagram.</td></tr>
<tr><td colspan="2"><u>Materials</u>
Cut materials accurately and safely by selecting appropriate tools.
Measure and mark out to the nearest millimetre.
Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).
Select appropriate joining techniques</td></tr>
<tr><td>Evaluate</td><td colspan="3">To evaluate their ideas and products against their own criteria and consider the views of others to o improve their work.
Evaluate an existing product and own product and suggest improvements.
To talk about what went well with their design against the design criteria.
How would the intended user evaluate the design/ product?
How would you improve your product?</td></tr>
<tr><td>Technical knowledge</td><td>Explore and use some of the healthy principles of a healthy and varied diet.</td><td>To be able to explain 3 different stitches and their uses.</td><td>To understand and use electrical systems in their products.</td></tr>
</table>

	Explore seasonality and know how food is grown. To include simple calculations involving ratios of ingredients to scale up or down from a recipe.		
Key Vocabulary	Food groups**,** fillings, Design, intended user, annotated, fit for purpose, criteria, generate Hygiene, safety, gram, assemble, fill combine, autumn, spring, summer, winter, ripe, harvest, inspire bake,	Research, design criteria, innovative, functional, appealing product fit for purpose generate, develop, model annotated sketches	Purpose audience, structure, innovate, functional, appealing, fit for purpose, investigate, analyse, Battery, battery holder, crocodile clip, fault, parallel & series circuit, switch, relevant, assemble, bulb, evaluate, invent, inspire ,circuit diagram, conductor,

Year 5			
Concept	**Autumn**	**Spring**	**Summer**
	Food Healthy Pizza	**Mechanics** Moving Monsters	**Electronics** Buzzer games
Famous inventor/ designer	Raffaele Esposito	James Dyson	Caroline Haslett
Design	Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Make products through stages of prototypes, making continual refinements. Design criteria to inform the design of a functional and appealing product that is fit for purpose and the intended user. Ensure design has annotated diagram or a cross sectional diagram. Children should generate and model their ideas using cross sectional diagrams, prototypes and ICT designs (where possible)		
Make	Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms)	Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and buzzers.	Convert rotary motion to linear using cams. To use a mechanism to move a monster.

	Measure accurately and calculate ratios of ingredients to scale up or down from a recipe	**Materials** Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).	
Evaluate	Evaluate the finished product and the design process. To evaluate their product against the design criteria. . Children to take ideas from other designs and apply them to their own work.		
Technical knowledge	To understand about micro-organisms. To use vocabulary such as processed, intolerances and allergies.	To use the correct vocabulary to describe the moving mechanics in their design.	To create circuits that use a number of components.
Key Vocabulary	Caught, processed, sustained, food groups, justify, nutrients, cook, combine, reflect, adapt, kitchen utensils, prepare. Processed, sustained, intolerances. Alergies, annotaed	Create, sketch, model, communicate ideas, cross sectional diagrams, prototypes, Design, develop, functional properties and aesthetic qualities, Evaluate, key events and individuals. Mechanics, axel, pulley, lever, cam, generate, linkages,	Create, sketch, model, communicate ideas, cross sectional diagrams, prototypes, Design, develop, functional properties and aesthetic qualities, Evaluate, key events and individuals. Invent, inspire, Battery, battery holder, crocodile clip, fault, parallel & series circuit, switch, relevant, assemble, motor

Year 6			
Concept	**Autumn**	**Spring**	**Summer**
	Food Healthy Pasta	**Textiles** phone pouch	**Mechanics and Electronics** – Fun at the fair
Famous inventor/ designer	Nigella Lawson	Althea McNish	Nikola Tesla
Design	Make products through stages of prototypes, making continual refinements. Design criteria to inform the design of a functional and appealing product that is fit for purpose and the intended user. Ensure design has annotated diagram or a cross sectional/ exploded diagram. Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Ensure products have a high quality finish, using art skills where appropriate.		

Make	Demonstrate a range of baking and cooking techniques Create and refine recipes, including ingredients, methods, cooking times and temperatures.	Create objects (such as a cushion) that employ a seam allowance. Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration). Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion)	Electricals and electronics: Create circuits using electronics kits that employ several components (such as LEDs, resistors, transistors and chips). Mechanics: Convert rotary motion to linear using cams. Use innovative combinations of electronics (or computing) and mechanics in product designs.
		<u>Materials</u> Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape). • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper). Children will be using precise measurements and cutting using appropriate techniques.	
Evaluate	Evaluate the finished product and the design process. To evaluate their product against the design criteria. . Children to take ideas from other designs and apply them to their own work. Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs. Improve upon existing designs, giving reasons for choices. Disassemble products to understand how they work.		
Technical knowledge	Understand seasonality and know how food is grown, reared, caught and processed. To have an understanding about allergies and intolerances.	To use a seam allowance. To make a prototype.	To name mechanical systems used in fair rides. To make an electrical circuit.
Key Vocabulary	Caught, processed, sustained, food groups, justify, nutrients, cook, combine, reflect, adapt, kitchen utensils, prepare. Reared, nutrition, intolerance,	cross-sectional and exploded diagrams, prototypes, pattern pieces sew textiles stitches seam allowance product design evaluate materials	invent, inspire, function, appealing, characteristics, finishing technique

	allergies, edible, design brief, criteria, relevant		Battery, Battery holder, Circuit diagram, buzzers, Bulb holder, motor Conductor, Crocodile clip, Fault, Parallel circuit, Switch, Series circuit, functional, fit for purpose, relevant