

Age Phase	Year Group	Topic	Main EYFS/National Curriculum Focus	Key Skills and Knowledge	
EYFS	Nursery	Me and my home	-Explore different materials freely, to develop their ideas about how to use them and what to make. -Develop their own ideas and then decide which materials to use to express them. -Join different materials and explore different textures.	-To learn how to join materials together. -To be able to combine different materials for a purpose. To handle equipment and tools effectively. -To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	
		Natural sculptures (Goldsworthy)			
	Reception	Natural sculptures Using natural resources to make 3D pieces (Goldsworthy)	-Explore, use and refine a variety of artistic effects to express their ideas and feelings. -Return to and build on their previous learning, -refining ideas and developing their ability to represent them. -Create collaboratively, sharing ideas, resources and skills.		
			Technical Knowledge	Practical Skills	
Key Stage 1	Year 1	Mechanisms – Sliders & Levers	Design design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Make select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Evaluate explore and evaluate a range of existing products evaluate their ideas and products against design criteria	Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project.	Food- <ul style="list-style-type: none"> • Cut, peel or grate ingredients safely and hygienically. • Measure or weigh using measuring cups or electronic scales. • Assemble or cook healthy ingredients. • Understand where food comes from. Materials <ul style="list-style-type: none"> • Cut materials safely using tools provided. • Measure and mark out to the nearest cm. • 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) Textiles <ul style="list-style-type: none"> • Shape textiles using templates. • Join textiles using running stitch.
		Food - Preparing fruit and vegetable		• Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . • Know and use technical and sensory vocabulary relevant to the project.	
		Structures – Freestanding structures		• Know how to make freestanding structures stronger, stiffer and more stable. • Know and use technical vocabulary relevant to the project.	

	Year 2	Textiles – templates and joining techniques. Christmas decorations	Design use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design	- Understand how simple 3-D textile products are made, using a template to create two identical shapes. • Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. • Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. • Know and use technical vocabulary relevant to the project.	<ul style="list-style-type: none"> • Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).
		Mechanisms - Wheels and Axels to make a fire engine	Make select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities	- Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Know and use technical vocabulary relevant to the project	Electronics <ul style="list-style-type: none"> • Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).
		Food - Preparing fruit and vegetables to make dips	Evaluate investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world Technical knowledge apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]	- Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i> . • Know and use technical and sensory vocabulary relevant to the project.	Computing <ul style="list-style-type: none"> • Model designs using software (such as 2simple). Construction <ul style="list-style-type: none"> • Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products. Mechanics <ul style="list-style-type: none"> • Create products using levers, wheels and winding mechanism
Lower key Stage 2	Year 3	Textiles – Sewing- Make a Greenmount mascot (Joanna Ball)	<ul style="list-style-type: none"> • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances. • Know and use technical vocabulary relevant to the project. 	Food- <ul style="list-style-type: none"> • Prepare ingredients hygienically using appropriate utensils. • Measure ingredients to the nearest gram accurately. • Follow a recipe. • Assemble or cook healthy ingredients (controlling 	

		Food- Healthy and varied diet-Sandwiches (Ainsley, Harriet)	<p>understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]</p> <p>apply their understanding of computing to program, monitor and control their products</p>	<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately. 	<ul style="list-style-type: none"> • the temperature of the oven or hob, if cooking). <p>Materials</p> <ul style="list-style-type: none"> • 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/ resources. <p>Textiles</p> <ul style="list-style-type: none"> • Understand the need for a seam allowance. • Join textiles with appropriate stitching. • Select the most appropriate techniques to decorate textiles. <p>Electronics</p> <ul style="list-style-type: none"> • Create series and parallel circuits. <p>Computing</p> <ul style="list-style-type: none"> • Control and monitor models using software designed for this purpose. <p>Construction</p> <ul style="list-style-type: none"> • Choose suitable techniques to construct products or to repair items. • Strengthen materials using suitable techniques. <p>Mechanics</p> <ul style="list-style-type: none"> • Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears.)
		Structures- 2D shapes to 3D product (Smiggle)	<p>-Develop and use knowledge of how to construct strong, stiff shell structures.</p> <ul style="list-style-type: none"> • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Understand and use knowledge of how to construct strong, stiff shell structures. • Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. • Know and use technical vocabulary relevant to the project. 	
Year 4		Mechanical Systems – Leavers and linkages (Ole Kirk Christiansen. - Lego)	<ul style="list-style-type: none"> • Understand and use lever and linkage mechanisms. • Distinguish between fixed and loose pivots. • Know and use technical vocabulary relevant to the project. 	<ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project. 	
		Electrical Systems - Simple circuits and switches (including programming and control) (Edison)	<ul style="list-style-type: none"> • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know and use technical vocabulary relevant to the project. 		

Upper Key Stage 2		Food - Healthy and varied diet <i>(Joe Wicks)</i>	<ul style="list-style-type: none"> • Know how to use appropriate equipment and utensils to prepare and combine food. Eg Grate cheese. Slice vegetables, spread sauce. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately. 	
	Year 5	Electrical Systems - Crumbles <i>(Alexander Bell)</i>	<ul style="list-style-type: none"> • Understand and use electrical systems in their products. • Understand the use of computer control systems in products. • Apply their understanding of computing to program, monitor and control their products. • Know and use technical vocabulary relevant to the project. 	<p>Food-</p> <ul style="list-style-type: none"> • Understand the importance of correct storage and handling of ingredients. • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe. • Demonstrate a range of baking and cooking techniques. • Create and refine recipes, including healthy seasonal ingredients, methods, cooking times and temperatures. • Understand how a variety of ingredients are grown, reared, caught and processed. • Understand and apply principles of a healthy and varied diet. <p>Materials</p> <ul style="list-style-type: none"> • 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). <p>Textiles</p> <ul style="list-style-type: none"> • 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
		Structures- frame structures <i>(Isambard Brunel)</i>	<ul style="list-style-type: none"> • Understand how to strengthen, stiffen and reinforce 3-D frameworks. • Know and use technical vocabulary relevant to the project. 	
	Food- Using garden produce to make soup/pasta sauce <i>(Deliciously Ella)</i>	<ul style="list-style-type: none"> -Know how to use utensils and equipment including heat sources to prepare and cook food. • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary 		
Year 6	Mechanical Systems- Pulleys or Gears <i>(Zaha Hadid)</i>	<ul style="list-style-type: none"> • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project. 		

		<p>Food - Celebrating culture and seasonality Scones (Nadiya Hussain)</p>		<p>-Know how to use utensils and equipment including heat sources to prepare and cook food.</p> <ul style="list-style-type: none"> • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary. 	<p>textiles (such as a soft decoration for comfort on a cushion).</p> <p>Electronics</p> <ul style="list-style-type: none"> • Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips.) <p>Computing</p> <ul style="list-style-type: none"> • Write code to control and monitor models or products (such as Crumbles) <p>Construction</p> <ul style="list-style-type: none"> • Develop a range of practical skills to create products (such as • cutting, drilling and screwing, nailing, gluing, filling and sanding). <p>Mechanics</p> <ul style="list-style-type: none"> • Convert rotary motion to linear using cams. • Use innovative combinations of electronics (or computing) and mechanics in product designs.
		<p>Textiles - Combining different fabric shapes (including computer-aided design) (Steve Jobs)</p>		<p>A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.</p> <ul style="list-style-type: none"> • Fabrics can be strengthened, stiffened and reinforced where appropriate. 	