

**CURRICULAR GOAL: KNOW HOW TO**

Other Curricular Goals

- COMPONENT: Know how to develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world

	Class 2		Class 3		Class 4	
Reception Expected	Year 1 Expected	Year 2 Expected	Year 3 Expected	Year 4 Expected	Year 5 Expected	Year 6 Expected

•		Build structures, explore how they can be made stronger, stiffer and more stable	Explore and use mechanisms in their products	Apply understanding of how to strengthen, stiffen and reinforce more complex structures  Understand and use mechanical systems in their products	Understand and use electrical systems in their products	Begin to use computing to programme, monitor and control their products	Apply their understanding of materials, mechanics and electrical systems and apply computing to monitor and control products
		<b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic	<b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic	<b>Year B - Spring term</b> Lighthouses/light up signs	<b>Year B - Spring term</b> Lighthouses/light up signs	<b>Year A - Autumn term</b> Controllable carousels	<b>Year A - Autumn term</b> Controllable carousels

		<b>Year A - Summer term - moving vehicles</b>	<b>Year A - Summer term - moving vehicles</b>				
<ul style="list-style-type: none"> <li>COMPONENT: Know how to build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users</li> </ul>							
	<p><b>Design</b> Generate ideas through talk and drawing, drawing on own experience to help generate ideas</p> <p>Design purposeful, functional and appealing products for themselves</p>	<p><b>Design</b> Generate, develop and model ideas through a range of ways including discussion, using templates, mock ups and ICT.</p> <p>Identify simple design criteria</p> <p>Make simple drawings and label parts</p>	<p><b>Design</b> Generate ideas for an item, considering its purpose and the user/'s</p> <p>Use simple research methods to inform the design of products</p> <p>Make drawings with labels when designing</p> <p>Establish criteria for a successful product</p>	<p><b>Design</b> Develop design criteria, based on research, to design functional, appealing products aimed at individuals or groups</p> <p>Generate, model and communicate ideas through discussion and annotated sketches labelled drawings</p>	<p><b>Design</b> Generate ideas through brainstorming and identify a purpose for their product</p> <p>Draw up a specification for their design</p> <p>Use prototypes, pattern pieces and computer-aided design to communicate their ideas.</p> <p>Develop a clear idea of what has to be done, planning how to use</p>	<p><b>Design</b> Produce detailed designs which have developed through a range of ideas, including cross-sectional and exploded diagrams</p> <p>Develop a design specification</p>	

		<p>and others, based on design criteria</p> <p>Develop their design ideas, applying findings from their earlier research</p> <p>Model their ideas in card and paper</p> <p><b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic</p> <p><b>Year B - Autumn term</b> Fabric hand puppets</p> <p><b>Make</b></p>	<p><b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic</p> <p><b>Year B - Autumn term</b> Fabric hand puppets</p> <p><b>Make</b> Select from and use a</p>	<p>Plan the order of their work before starting</p> <p><b>Year B - summer term</b> Sewing pencil cases</p> <p><b>Make</b> Select from a wider range of</p>	<p>from different views showing specific features</p> <p>Develop a clear idea of what has to be done, planning how to use the materials, equipment and processes and suggesting alternative methods if the first attempts fail</p> <p><b>Make</b> Select from a wide range of</p>	<p>the materials, equipment and processes and suggesting alternative methods if the first attempts fail</p> <p>Use results of investigations, information sources, including ICT when developing design ideas</p> <p><b>Year A - Autumn term</b> Controllable carousels</p> <p><b>Sketchup</b> <a href="https://www.sketchup.com/plans-and-pricing/sketchup-free">https://www.sketchup.com/plans-and-pricing/sketchup-free</a></p> <p><b>Make</b> Select from a wide range of tools and materials based on their</p>	<p>Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques</p> <p><b>Year A - Autumn term</b> Controllable carousels</p> <p><b>Make</b></p>
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		<p>Use simple tools and equipment safely to perform practical tasks, e.g. scissors, hole punch</p> <p>Assemble, join and combine materials and components together using a variety of temporary methods, e.g. glue or masking tape</p>	<p>range of tools and equipment and use vocabulary to name and describe them</p> <p>Use these hand tools safely and appropriately to perform practical tasks</p> <p>Measure, cut and score with some accuracy</p>	<p>tools and equipment to perform practical tasks with increasing accuracy</p> <p>Work safely and accurately with a range of simple tools</p> <p>Measure, mark out, cut, score and assemble components with more accuracy</p>	<p>tools and materials to ensure a high quality finish</p> <p>Measure, mark out, cut and shape a range of materials using appropriate tools and assemble components with more accuracy</p>	<p>aesthetic qualities and work accurately</p> <p>Slippers</p> <p>Measure and mark out accurately</p>	<p>Select from a range of tools, materials and equipment and techniques and show an understanding of their functional properties and aesthetic qualities use safely and accurately</p> <p>Carousels Automaton Hammer, saw, rasp, soldering iron Assemble components to make working models</p>
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		<p>Select materials and components according to their properties</p> <p><b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic</p> <p><b>Year B - Autumn term</b> Fabric hand puppets</p>	<p>Select from and use a wide range of materials, including construction, textiles and ingredients according to their properties</p> <p>Assemble, join and combine materials in order to make a product</p>	<p>Consider their ideas as they make progress and be willing to change elements if this helps to improve their work</p> <p>Select from and use a wider range of materials and components according to their properties</p>	<p>Join and combine materials and components accurately in temporary and permanent ways</p>	<p>Cut and join with accuracy to ensure a good quality finish to the product</p>	<p>Construct products using permanent joining techniques</p>
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		(running stitch)	<p>Cut, shape and join fabric to make a simple product using basic sewing techniques (running stitch)</p> <p><b>Year A - Autumn term</b> Fire engine - linked to The Great Fire of London topic</p> <p><b>Year B - Autumn term</b> Fabric hand puppets (running stitch)</p>	Measure, tape or pin, cut and join fabric with some accuracy (back stitch)	Sew using a range of different stitches, weave and knit	Produce templates and patterns, cutting and joining with accuracy to ensure a good quality finish to the product	Pin and stitch materials together to create a good quality finished product
<ul style="list-style-type: none"> <li>COMPONENT: Know how to critique, evaluate and test their ideas and products and the work of others</li> </ul>							
	Explore and evaluate a	Evaluate their ideas	Evaluate their ideas and	Consider the views of others	Investigate and analyse a range of existing products	Explain how	key events

		range of existing products	and products against design criteria	products against their own design criteria to make improvements	to evaluate their work and make improvements based on this identify criteria that can be used for their own designs		and individuals in Design and Technology have helped to shape the world.
		Evaluate their product by discussing how well it works in relation to the purpose	Evaluate against design criteria	Evaluate their product against original design criteria ~ how well does it meet the intended purpose?	Evaluate their work both during and at the end of the assignment	Evaluate the product against the original design specification	Evaluate their products, identifying strengths and areas for development : carrying out appropriate tests
		Evaluate their product by asking questions about what they have made and how they have gone about it	Talk about their product, saying what they like and dislike about it	Disassemble and evaluate familiar products	Evaluate their product, carrying out appropriate tests	Personally evaluate the product and seek evaluation from others	Record their evaluations using drawings and labels  Evaluate against their original criteria and suggest ways that their products could be improved

▪ COMPONENT: Know how to understand and apply the principles of nutrition and learn how to cook.

<p>Understand where food comes from.</p>	<p>Use the basic principles of a healthy and varied diet to prepare dishes.</p>	<p>Understand the principles of a healthy and varied diet</p>	<p>Understand and apply the principles of a healthy and varied diet</p>	<p>Prepare and cook a variety of predominantly savoury dishes</p> <p>Know where and how a variety of ingredients are grown</p>	<p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p>
<p>Select and use appropriate fruit and vegetables, processes and tools (Fruit Salad ~ link to geography, look at the origins and use fruits chn may not have seen before ~ mango)</p>	<p>Follow safe procedures for food safety and hygiene (hand washing, hair tied up, Bridge ~ cutting in half, claw ~ slicing from the onset of the year. They chop their own ingredients and cook communally using a hob at the front of the classroom)</p>	<p>Develop an understanding of hygienic food preparation and storage (Storage in the fridge, foods kept at ambient temperate, use of tinned food. Storage of products in the fridge when completed. Taught about rules of reheating previously cooked food. Chn heat/cook on their own hob)</p>	<p>Demonstrate hygienic food preparation and storage (Discuss that there's bacteria on fresh uncooked meat in preparation for them cutting it themselves in UKS2.)</p>	<p>Develop an understanding of the rules for basic food hygiene and other safe practices, e.g. hazards relating to the use of ovens (Use of coloured chopping boards to avoid cross contamination from raw meat.</p>	<p>Adhere to the rules for basic food hygiene and other safe practices, e.g. hazards relating to sharp implements and ovens</p>



		Year A and B spring term			Year A and B autumn term	<p>Weigh and measure with increasing accuracy (time, dry ingredients and liquids) <b>(Chn pour ingredients onto the measuring scale and weigh own ingredients and use a measuring jug for liquids. Chn are working as a group, following each step of the process together)</b></p> <p>Year A and B summer term</p> <p><b>(Unit of written work to consolidate seasonality, healthy eating and the origins of ingredients)</b></p>	<p>Weigh and measure accurately (time, dry ingredients and liquids) <b>(Chn work independently through the steps provided)</b></p> <p>Understand seasonality, know where and how a variety of ingredients are grown, reared, caught and processed.</p> <p><b>(</b></p> <p><b>Year A and B summer term</b></p>
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## Rolling programme

	<b>Autumn A</b>	<b>Autumn B</b>	<b>Spring A</b>	<b>Spring B</b>	<b>Summer A</b>	<b>Summer B</b>
Class 2	Fire engines	Sewing - puppets (running stitch)	Cookery	Cookery	Vehicles	Lighthouse
Class 3	Cookery	Cookery	Moving monsters	Torches/lighthouses		Sewing - pencil cases (back stitch)
Class 4	Carousels	Sewing - pin cushions (blanket stitch)	Automaton		Cookery	Cookery

**Key vocabulary** (This is cumulative; each year group uses the vocabulary covered in the previous class in addition to the new words)

Class 1	Class 2	Class 3	Class 4
	product	purpose	research
	user	design features	survey
	suitable	products	interviews
	ideas	prototype	questionnaires
	design ideas	pattern pieces	specification
	design criteria	annotated sketches	skills
	experiences	cross-sectional drawings	cams
	knowledge	exploded diagrams	pulleys
	existing	computer-aided design	gears
	develop	techniques	program
	communicate	functional properties	monitor
	model	aesthetic qualities	substituting
	components	mechanical components	processed
	templates	electrical components	texture
	mock ups	measure	aroma
	plan	functional properties	appearance
	tools	aesthetic qualities	taste
	equipment	input	nutrients
	materials	process	fibre
	textiles	output	innovation
		mechanical systems	sustainability
	strength	levers	hammer
	stiffness	linkages	tacks
	stability	pneumatic systems	saw
	food ingredients	electrical circuits	rasp
	components	shell structure	drill
	characteristics	recycle	drill bit
	procedure	reuse	soldering iron
	safety	chopping	solder
	measure	slicing	bench hook
	mark out	grating	Masking tape
	cut and shape	mixing	
	assemble	spreading	
	join	kneading	
	combine	baking	
	finishing techniques	balanced diet	
	improvements		
	hygiene		
	cutting		
	peeling		
	grating		

