

Christopher Reeves Design and Technology overview

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Food	<p>• Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: pencils for drawing and writing, paintbrushes, scissors, knives, forks and spoons.</p> <p>ELG - FMS - Use a range of small tools, including scissors, paintbrushes and cutlery.</p> <p>ELG - MS - Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.</p>	<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 ingredients. <p>Use the basic principles of a healthy and varied diet to prepare dishes</p> <p>understand where food comes from</p>	<ul style="list-style-type: none"> • Kitchen hygiene including washing hand properly and making sure all equipment is clean before starting • Introduction to equipment to use when cutting, peeling and grating • Practise skills of cutting, peeling and grating • Measure ingredients using whole amounts of containers • Gradually introduce to measured amounts such as teaspoons, cups etc • Combine raw ingredients such as fruit and vegetables EG fruit kebabs, fruit 'smoothies' etc • Sort food into the five food groups and know the names of the groups • Know that we should eat at least five portions of fruit and vegetables everyday • Know that all food comes from plants or animal • Name some foods and where they come from 	<ul style="list-style-type: none"> • Recap kitchen hygiene including washing hand properly and making sure all equipment is clean before starting • Recap of equipment names for cutting, peeling and grating • Practise skills of cutting, peeling and grating with greater control and precision • Measure ingredients using simple electronic scales to whole numbers such as 100, 200 etc • Sort food into the five food groups on the eatwell plate • Be able to explain why we need to eat five portions of fruit and vegetables everyday • Know that all food has to be farmed, grown elsewhere (eg home) or caught • Know where foods come from and can name some 	<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 ingredients (controlling the temperature of the oven or hob, if cooking). <p>Understand and apply the principles of a healthy and varied diet</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<ul style="list-style-type: none"> • Recap kitchen hygiene including washing hand properly and making sure all equipment is clean before starting • Teach equipment names for mixing, cooking and cutting • Practise skills of cutting, mixing, beating, folding, kneading and rolling with greater control and precision • Recap measuring ingredients to the nearest 100g • Simple step recipes to follow using pictures for each step • Combine raw ingredients, moving to simple cooking using an oven or grill • Notice the changes in ingredients when they have been cooked • Talk about and describe changes that occur in foods when they are cooked • Recap the eatwell plate and the five different food groups • Learn that a healthy diet is made up from a variety and balance of different foods and drinks • Learn that to be active and healthy, food is needed to provide energy for the body • Learn about the foods that are grown and how they are grown • Include information on root / non-root vegetables, fruit plants etc 	<ul style="list-style-type: none"> • Learn about how we store different foods in different places eg vegetables in a cool, dry place, meat / dairy in the fridge, cooked and uncooked food etc • Measure accurately using non-electronic scales • Follow recipes where combining ingredients and cooking are the main tasks • Recap how to use an oven and the need to warm up before cooking • Recap about having a healthy diet (linked with science topic), food locality, availability and how its processes • Recap how to measure ingredients to nearest gram using electronic and non-electronic scales • Recap that different foods contain different substances eg nutrients, water and fibre – that are needed for health • Recap the foods that are grown, reared and caught in the UK, Europe and the wider world include pigs, chicken, cattle, fish • Look at different techniques that are used across the world • Recap what microorganisms are and the differences and how to stop them spreading. • Recap food availability and some of the things that have an effect on this • Recap how food is processed into ingredients that can be eaten or used in cooking and some of their uses • Learn how to read food labels for ingredients and correct storage • Learn about how we store different foods in different places eg vegetables in a cool, dry place, meat / dairy in the fridge, cooked and uncooked food etc • Follow recipes where combining ingredients and cooking are the main tasks • Create and refine recipes, including ingredients, methods, cooking times and temperatures. • Demonstrate a range of baking and cooking techniques. • Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms). • Understand and apply the principles of a healthy and varied diet. • Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. • Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.
	<p>-sorting food into groups</p> <p>-RE - Easter - hot cross buns</p> <p>-Senses - healthy eating - fruit salad</p> <p>-Chinese New Year - stir fry and food tasting -</p> <p>-healthy breakfasts</p>	<p><i>Year A: Autumn 1 - Fire, Fire Designing and making bread loaves and rolls for the Pudding Lane bakery.</i></p> <p><i>Spring 2 - Make chocolate Easter nests.</i></p> <p><i>Summer 2 - Cutting, peeling, boiling, mashing/blending vegetables to make pottage/soup for the Medieval banquet.</i></p>	<p><i>Year B: Autumn 1 - Hooray For Heroes</i></p> <p><i>Linked to science, food chains and food pyramid. Finding out how different vegetables grow and when and where they are planted. Make vegetable salads by selecting vegetables, cutting, peeling, grating and arranging attractively.</i></p> <p><i>Spring 2 - Follow recipe and weigh out ingredients to make Easter cupcakes.</i></p> <p><i>Summer 2 - The Secret Garden</i></p> <p><i>Linked to geography - Finding out about fruits that grow in different parts of the World.</i></p>	<p><i>Spring 2 - plan A</i> Where in the world are we? chn will be learning about healthy eating recapping the eatwell plate. They will be learning where food comes from - field to fork. Practical activities to include cutting of vegetables, food tasting, following a recipe to make a salad using skills learnt.</p>	<p><i>Spring term plan B - Roman food</i></p> <p><i>Autumn Term plan B - WW11 day</i></p> <p><i>Autumn 2 Plan B Following WW2 recipes and where the food comes from, Practise cutting and peeling vegetables.</i></p>	<p>Autumn - Link to Ancient Greece. Children make a variety of Greek foods (use ratio to scale up the recipe) including flat bread with an additional ingredient of choice.</p> <p>Summer - Health and Wellbeing. Children will follow recipes to make healthy meals and will use ratio to help with proportion sizes. Discuss seasonality and storage.</p>	<p>Spring - Cook two Anglo-Saxon/Viking dishes. Bread and an oat cake. Use ratio and proportion to scale up for the required amount.</p>

			Taste a variety of fruits. Design and make fruit smoothies. Write ingredients/ recipe.				
Materials	<p>ELG - CWM - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</p> <p>•Share their creations, explaining the process they have used.</p> <p>•Make use of props and materials when role playing characters in narratives and stories.</p>	<ul style="list-style-type: none"> • 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). 	<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. 	<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>- Learn names for different tools such as saw, scissors, - Junk modelling - vehicles, buildings, experimenting with cutting, sticking, folding and joining materials such as paper, card, felt.</p> <p>-Experiment with tearing paper.</p> <p>- Cut along lines, straight and curved</p>	<ul style="list-style-type: none"> • Learn names for different tools such as saw, scissors, • Learn safety measures to adhere to when using such tools • Partake in many activities involving cutting paper, card, fabric • Cut along lines, straight and curved • Teach how to mark a material and then cut to the mark made • Use non-standard units of measure • Teach the children how to tear and cut and apply these techniques to appropriate activities • Teach children how to roll paper to create tubes 	<ul style="list-style-type: none"> • Learn names for different tools such as saw, scissors, craft knife • Recap safety measures to adhere to when using such tools • Partake in many activities involving cutting paper, card, fabric • Teach how to use a ruler to measure and mark out a point to cut to. • Use cm rulers • Recap how to tear and cut and apply these techniques to appropriate activities • Teach the children how to fold and curl materials • Children to give examples of when these techniques might be used • Teach the children how to: <ul style="list-style-type: none"> • Use hole punch • Insert paper fasteners for card linkages • Create hinges • Investigate strengthening sheet materials • Observe how a glue gun can be used 	<ul style="list-style-type: none"> • Choose and use the correct cutting tool for the task • Make decisions as to what tool would be best used for the task • Recap safety measures when using cutting tools • Practise using a ruler to the nearest cm and mm, marking and cutting • Practise skills from Year 3 • Create nets • Use and explore complex pop ups • Use glue gun with close supervision (one to one) 	<ul style="list-style-type: none"> • Use paper to plan and cut with precision using scissors. • Transfer image to wood plate and cut using a variety of sizes of gouges and chisel tools – choosing the appropriate ones for more detail. 		
	<p>Junk modelling area - buildings, vehicles, puppets, Firework pictures, bonfires, rockets.</p> <p>Christmas - present wrapping, christmas crafts, card making</p> <p>People Who Help Us - Emergency vehicles</p>	<p>Year A: Autumn 1 Fire, Fire Designing and making Tudor Houses with doors or windows that open using a fold as a hinge,</p> <p>Spring 2 - Make a life-cycle wheel using split pins.</p> <p>Make Frogs - Fold paper in a concertina/zig-zag style to make long legs.</p>	<p>Year B: Autumn 2 Christmas crafts - Moving legs and arms for Father Christmas Christmas,</p> <p>Easter, Father's and Mother's Day cards.</p>	<p>Summer plan A - making shadow puppet theatres and shadow puppets with moving parts</p>	<p>Summer plan B - animal with moving parts</p>	<p>Summer - children research, plan, design and build a secure waterproof building to withstand a flood/earthquake. Use a variety of appropriate materials and join together. Linked to Geography Extreme Earth.</p> <p>Autumn - make a card and paper model of the parthenon to link with Ancient Greeks topic.</p>	

		Christmas, Easter, Father's and Mother's Day cards.					
Textiles	ELG - CWM - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. •Share their creations, explaining the process they have used. •Make use of props and materials when role playing characters in narratives and stories.	<ul style="list-style-type: none"> 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). 	<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. 	<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 textiles (such as a soft decoration for comfort on a cushion). Create 3D products using seam allowance Join fabric with a sewing machine to create base piece Use a variety of stitching techniques to apply decoration creating a visual and tactile effect 			
	Junk modelling area - puppets, collage pictures.	<p>Year B: Toy maker Spring 2 Hand puppets - Join fabrics by using glue. Practise running stitch using sewing cards and laces then sew fabric pieces together to make hand puppets.</p> <p>Decorate fabrics with buttons, beads, sequins, braids, ribbons by glueing them onto the fabric</p>	Spring 2 Plan A Weaving baskets, practising tying knots	Create a money wallet or purse 5 textiles with a seam allowance and using a variety of stitches for details. Adding materials to decorate.			
			Aut plan A - Stone age design and make a stone age tabard for teddy	Aut Plan B - WW2 make do and mend purses. Investigate different ways of fastening their purse.	Sew a Christmas decoration	Summer - poison dart frog cushion.	
Construction	ELG - CWM - Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. •Share their creations, explaining the process they have used. •Make use of props and materials when role playing characters in narratives and stories.	Use materials to practise screwing, gluing and nailing materials to attach materials together.	<ul style="list-style-type: none"> Choose suitable techniques to construct products or to repair items. Strengthen materials using suitable techniques. 	<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). Chn to develop practical skills. Sawing/cutting and fixing together using a variety of materials (nails, glue, screws). Building a solid structure. 			
		Use materials to practise screwing, gluing and nailing materials to attach materials together.	Construct a working bridge with suitable materials ensuring structure is stable and strengthen with diagonal struts.	Construct a shell using appropriate materials and techniques to ensure item is sturdy and secure.			
	Outdoor construction area. Art and craft area - Junk model making -	<p>Year A: Autumn 1 - Attach materials together to create Tudor houses.</p> <p>Summer 2 - Design and make castles by fixing materials together.</p>	Spring term Plan A Where in the world are we? Investigating structures making paper bridges	Autumn term plan B - Anderson shelters	Summer - children research, plan, design and build a secure waterproof building to withstand a flood. Use a variety of appropriate materials and join together. Linked to Geography Extreme Earth.	Autumn - plan, design and construct a moon buggy using materials including wood.	
Mechanics		• Create products using levers, wheels and winding mechanisms.	• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).	<ul style="list-style-type: none"> Convert rotary motion to linear using cams. 			

		Create pictures using levers.	• Create products using levers, wheels and winding mechanisms.	• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding).	<ul style="list-style-type: none"> Use innovative combinations of electronics (or computing) and mechanics in product designs. 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. Ensure products have a high quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. Use a cam to make an up and down mechanism Use innovative combinations of electronics (or computing) and mechanics in product designs – microbit. 		
			Spring 2 - The Toymaker - chn to create pictures with moving parts. (links to materials)		Spring - Crime and Punishment themed mechanism using cams to create a linear movement.	Autumn Moon Buggy (electric circuits and constructed) Autumn Mars Rover as part of the visit to the Space Centre in Leicester, programming a rover to start and stop and change direction (computing)	
Electrics				• Create series and parallel circuits	<ul style="list-style-type: none"> Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips). Write code to control and monitor models or products. Create circuits using electronics kits that employ a number of components (such as LEDs, microbit, resistors). Incorporate motor and a switch into a model 		
						Autumn - Moon Buggy (electrics motor and switch) Autumn Mars Rover as part of the visit to the Space Centre in Leicester, programming a rover to start and stop and change direction (computing)	
To design, make, evaluate and improve	ELG:EAD: CWM: Share their creations, explaining the process they have used.	• Design products that have a clear purpose and an intended user. • Make products, refining the design as work progresses.		<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. Ensure products have a high quality finish, using art skills where appropriate. Use prototypes, cross-sectional diagrams and computer aided designs to represent designs. 		
	Family Challenges - Talk about how they created their projects they made with their family.	Autumn 1: Design Tudor houses. Adapt ideas and evaluate methods as the chn go along. Is glue or masking tape better for sticking the cardboard together? How can we make the roof strong?	Autumn 1: Design and plan what the salad will look like. Evaluate - Questions; did the salad look nice? Were the vegetables suitable? etc	Spring Plan A - Le Corbusier Shape houses	Spring Plan B - Roman musical instruments	Summer - Flood resistant house.	Autumn - Moon buggy
To take inspiration from design throughout history		• Explore objects and designs to identify likes and dislikes of the designs. • Suggest improvements to existing designs. • Explore how products have been created.		• Improve upon existing designs, giving reasons for choices. • Disassemble products to understand how they work.		<ul style="list-style-type: none"> Create innovative designs that improve upon existing products. Evaluate the design of products so as to suggest improvements to the user experience. 	
			Summer 2 - The Secret Garden inspiration from Monet's Garden	DT2/1.3c understand how key events and individuals in design and technology have helped shape the world	DT2/1.3c understand how key events and individuals in design and technology have helped shape the world Aut Plan B Enigma machine	Addressed throughout making all products.	Addressed throughout making all products.

				Spring term - Plan A Where in the world are we? Le Corbusier shape houses Influential architects - Eiffel tower	Spring plan B - roman instruments		
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Sticky Knowledge

Early Years	Milestone 1	Milestone 2	Milestone 3
<ul style="list-style-type: none"> • Know that food belong to different groups • Know about foods from different religions related to festivals • Know how to be both hygienic and safe when using food • Know how to safely handle and use tools such as scissors and playdough and clay tools effectively • Know how to construct using a variety of natural materials and tools through Forest school 	<ul style="list-style-type: none"> • Use own ideas to design something and describe how their own idea works • Know how to design a product which moves • explain to someone else how they want to make their product and make a simple plan before making • Know how to make a model stronger and more stable • Know how to fix materials together • Know which resources and tools to choose • Know the names of and how to use tools such as scissors, needles, rulers • explain what went well with their work • Know how to use wheels and axles and when it is appropriate to do so • Know how to weigh ingredients to use in a recipe • Know appropriate ingredients used when making a salad • Know why we eat food from the different food groups • Know how to cut food safely • Know how to construct using a variety of natural materials and tools through Forest school 	<ul style="list-style-type: none"> • Know how to be both hygienic and safe when using food • Know what a healthy diet consists of • Know how to reinforce a part of a structure for strength and stability • Explain how to improve a finished model • Know why a model has, or has not, been successful • Know which tools to use for particular tasks and how to handle them safely • Know which material to use to give the best outcome • Know how to evaluate designs and be able to suggest improvements • Know how to produce a plan, include annotated drawings and sketches • know about ideas from other designers • Know how to use a back stitch and a cross stitch • Know how to use levers and a winding mechanism and when it is appropriate to do so. • Know how to use a needle and thread and be able to join two pieces of material together securely • Know how to construct using a variety of natural materials and tools through Forest school 	<ul style="list-style-type: none"> • Know how to cook safely, thinking about hygiene and food nutrition. • Know how to use tools in the kitchen and measure out ingredients accurately. • Know about the seasonality of different foods. • Know how to follow a recipe successfully using a variety of different making/baking techniques. • Know how to evaluate designs and be able to suggest improvements. • Know how to carry out effective research to inform plans and ideas. • Know which materials to use based on their design and the properties of the materials. • Know which tool to use for a specific practical task (including joining, sawing, drilling) • Know how to use all tools correctly and safely. • Know a variety of different stitches and how to join pieces of material in different ways • Know how and why a product may need strengthening, stiffening or reinforcing. • know how to incorporate an electrical circuit with a switch and write a code • Know how to use cams to create linear movement • Know how to construct using a variety of natural materials and tools through Forest school