

		Nursery	Reception	Phase 1 Key Stage 1 Year 1 & 2	Phase 2 Lower Key Stage 2 Year 3 & 4	Phase 3 Upper Key Stage 2 Year 5 & 6
National Curriculum Subject Content	Early Learning Goals	<ul style="list-style-type: none"> <li>Introducing children to design concepts and techniques so they can make decisions based on that knowledge and receiving adult help where needed.</li> </ul>	<ul style="list-style-type: none"> <li>Self-confidence and self-awareness: Children are confident to speak in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or don't need help.</li> <li>Understanding: Children follow instructions involving several ideas or actions.</li> <li>Health and self-care: Children know the importance for a healthy diet and talk about ways to keep healthy and safe.</li> <li>Being imaginative: Children will use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas through design and technology.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>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</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul>	

<b>Design</b>	<b>Contexts uses and purpose</b>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Engaging children in decision making towards design.</i></li> <li>❖ <i>Use questioning to extend children's ideas and thought processes eg Is it going to be flat? Elements of size, colour and joining techniques needed.</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Make suggestions and ask questions to extend children's ideas of what is possible, for example, "I wonder what would happen if...".</i></li> <li>❖ <i>Support children in thinking about what they want to make, the processes that may be involved and the materials and resources they might need, such as a photograph to remind them what the climbing frame is like.</i></li> <li>❖ <i>Constructs with a purpose in mind, using a variety of resources.</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>State the purpose of the design and the intended user</i></li> <li>❖ <i>Explore materials, make templates and mock ups e.g. moving picture / lighthouse</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Gather information about the needs and wants of particular individuals and groups</i></li> <li>❖ <i>Develop their own design criteria and use these to inform their ideas</i></li> <li>❖ <i>Research designs</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Carry out research, using surveys, interviews, questionnaires and web-based resources</i></li> <li>❖ <i>Identify the needs, wants, preferences and values of particular individuals and groups</i></li> <li>❖ <i>Develop a simple design specification to guide their thinking Recognise when their products have to fulfil conflicting requirements</i></li> </ul>
	<b>Ideas</b>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Provide images and peer and adult examples for children to generate their own ideas.</i></li> <li>❖ <i>Explicit teaching of an idea</i></li> <li>❖ <i>Observing a creation and using the ideas for their own purposes.</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Provide images and peer and adult examples.</i></li> <li>❖ <i>Encourage discussion of ideas before implementation</i></li> <li>❖ <i>Looking at bought products to generate ideas.</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Generate own ideas for design by drawing on own experiences or from reading</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Share and clarify ideas through discussion</i></li> <li>❖ <i>Model their ideas using prototypes and pattern pieces</i></li> <li>❖ <i>Use annotated sketches, cross-sectional drawings and diagrams</i></li> <li>❖ <i>Use computer-aided design</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Generate innovative ideas, drawing on research</i></li> <li>❖ <i>Make design decisions, taking account of constraints such as time, resources and cost</i></li> <li>❖ <i>Develop prototypes</i></li> </ul>

National Curriculum Subject	Content		<ul style="list-style-type: none"> <li>✚ Moving and Handling: Children handle equipment and tools effectively.</li> <li>✚ Exploring and using media materials: They use and explore a variety of materials, tools and techniques experimenting with texture, colour, design, form and function.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✚ select from and use a range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing] •</li> <li>✚ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristic</li> </ul>	<p>Pupils should be taught to: •</p> <ul style="list-style-type: none"> <li>✚ select from and use a wider range of tools and equipment to perform practical tasks [e.g. cutting, shaping, joining and finishing], accurately</li> <li>✚ 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</li> </ul>
Make	Planning	<ul style="list-style-type: none"> <li>❖ Learning what is a temporary and what is a permanent method of fixing things</li> <li>❖ Verbally planning their work eg decorating a ginger man choosing their resources (raisins etc). Think about it as they completing it</li> <li>❖ Physically lay out their idea and seek adult help to join if necessary.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Demonstrate and teach skills and techniques associated with the things children are doing, for example, show them how to stop the paint from dripping or how to balance bricks so that they will not fall down.</li> <li>❖ Begin to try out a range of tools and techniques safely</li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Select from a range of tools and equipment explaining their choices</i></li> <li>❖ <i>Select from a range of materials and components according to their characteristics</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Select tools and equipment suitable for the task</i></li> <li>❖ <i>Explain their choice of tools and equipment in relation to the skills and techniques they will be using</i></li> <li>❖ <i>Select materials and components suitable for the task</i></li> <li>❖ <i>Explain their choice of materials and components according to functional properties and aesthetic qualities</i></li> <li>❖ <i>Order the main stages of making</i></li> <li>❖ <i>Produce detailed lists of tools, equipment and materials that they need</i></li> </ul>

<b>Practical skills and techniques</b>	<ul style="list-style-type: none"> <li>❖ Model how to stabilise and strengthen a model that is being built</li> <li>❖ Teach children and support in using various resources</li> <li>❖ Begin to realise tools can be used for a purpose</li> <li>❖ Modelled through role play and real life experiences</li> <li>❖ Exposure to various construction materials</li> <li>❖ Have various tools available for self-selection and adult help to operate and use correctly</li> <li>❖ Exposure to rulers and tape measures to explore the height of their model. Is A taller than B?</li> </ul>	<ul style="list-style-type: none"> <li>❖ Beginning to independently choose different joining methods eg PVA glue, pritt stick, sellotape or staples based on prior knowledge of their properties</li> <li>❖ Join construction pieces together to build and balance.</li> <li>❖ Realise tools can be used for a purpose.</li> <li>❖ Investigate various construction materials. Construct with a purpose in mind, using a variety of resources.</li> <li>❖ Be able to represent their design and use that plan to complete their work</li> <li>❖ Selects tools and techniques needed to shape, assemble and join materials they are using</li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Follow procedures for safety</i></li> <li>❖ <i>Use and make own templates</i></li> <li>❖ <i>Measure, mark out, cut out and shape materials and components</i></li> <li>❖ <i>Assemble, join and combine materials and components</i></li> <li>❖ <i>Use simple fixing materials e.g. temporary – paper clips tape and permanent – glue, staples</i></li> <li>❖ <i>Use finishing techniques, including those from art and design</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Follow procedures for safety</i></li> <li>❖ <i>Use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</i></li> </ul>
	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Measure, mark out, cut and shape materials and components with some accuracy</i></li> <li>❖ <i>Assemble, join and combine materials and components with some accuracy apply a range of finishing techniques, include those from art and design, with some accuracy</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Accurately measure to nearest mm, mark out, cut and shape materials and components</i></li> <li>❖ <i>Accurately assemble, join and combine materials/ components</i></li> <li>❖ <i>Accurately apply a range of finishing techniques, including those from art and design</i></li> <li>❖ <i>Use techniques that involve a number of steps</i></li> <li>❖ <i>Demonstrate resourcefulness, e.g. make refinements</i></li> </ul>		

National Curriculum Subject Content	Own ideas and products		<ul style="list-style-type: none"> <li>✦ Self-confidence and self-awareness: Children are confident to speak in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or don't need help.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✦ explore and evaluate a range of existing products</li> <li>✦ evaluate their ideas and products against design criteria</li> <li>✦</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✦ investigate and analyse a range of existing products</li> <li>✦ evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</li> <li>✦ understand how key events and individuals in design and technology have helped shape the world</li> </ul>
		<ul style="list-style-type: none"> <li>❖ Have 2D and 3D objects available</li> <li>❖ Encourage children to talk about their creation and what a shape could be used for</li> <li>❖ Listen to suggestions about how to develop a creation.</li> <li>❖ Ensure lots of role modelling, talking, suggesting and demonstrating.</li> <li>❖ Encouraging them to choose materials to use for their own ideas.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Have a 'holding bay' where models and works can be retained for a period for children to enjoy, develop, or refer to.</li> <li>❖ Selects appropriate resources and adapts work where necessary</li> <li>❖ Opportunities for children to talk about their design and how they have created the product.</li> </ul>	<p>Example</p> <ul style="list-style-type: none"> <li>❖ Talk about their design ideas and what they are making</li> <li>❖ Make simple judgements about their products and ideas against design criteria</li> <li>❖ Suggest how their products could be improved</li> <li>❖ Evaluating products and components used</li> </ul>	<p>Example</p> <ul style="list-style-type: none"> <li>❖ Identify the strengths and weaknesses of their ideas and products</li> <li>❖ Consider the views of others, including intended users, to improve their work</li> <li>❖ Refer back to their design criteria as they design and make</li> <li>❖ Use their design criteria to evaluate their completed products</li> </ul>

<b>National Curriculum Subject Content</b>	<b>Evaluate Key events and</b>	<b>Existing products</b>	<ul style="list-style-type: none"> <li>❖ Investigate how toys work eg turn, push, poke, stamp or twist.</li> <li>❖ Properties of different materials eg parachute is slippery, strong and light</li> <li>❖ The water tray aprons are plastic, clay aprons are thinner.</li> <li>❖ Investigate how materials keep us warm and dry – blue suits, wellies, coats.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Select and choose materials for a purpose eg creating an umbrella using cling film not paper.</li> <li>❖ Model simple properties of materials eg waterproof, dryness, warmth and how soft it is.</li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ Investigate - what products are, who they are for, how they are made and what materials are used</li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ Investigate - how well products have been designed, how well products have been made, why materials have been chosen, what methods of construction have been used, how well products work, how well products achieve their purposes and how well products meet user needs and wants</li> </ul>
			<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ Investigate - who designed and made the products, where products were designed and made, when products were designed and made and whether products can be recycled or reused</li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ Investigate - how much products cost to make, how innovative products are and how sustainable the materials in products are</li> </ul>		
					<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ Identify great designers and their work and use research of designers to influence work</li> </ul>	
				<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✚ build structures, exploring how they can be made stronger, stiffer and more stable</li> <li>✚ explore and use mechanisms [e.g. levers, sliders, wheels and axles], in their products</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✚ apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>✚ understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]</li> <li>✚ understand and use electrical systems in their products [e.g. series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>✚ apply their understanding of computing to program, monitor and control their products</li> </ul>	

<b>Technical knowledge</b>	<b>Making products work</b>	<ul style="list-style-type: none"> <li>❖ <i>Modelling different techniques eg hammering with mini hammer and pins</i></li> <li>❖ <i>Teaching different techniques and how to use tools for a purpose</i></li> <li>❖ <i>Knowing the properties of different joining methods eg PVA glue, pritt stick, sellotape or staples</i></li> <li>❖ <i>Opportunities for real lift hammers and nails on a work bench</i></li> <li>❖ <i>Observing role models eg watching the site manager completing jobs using tools for a purpose.</i></li> <li>❖ <i>Role play – building areas inside and outside</i></li> </ul>	<ul style="list-style-type: none"> <li>❖ <i>Investigate various construction materials.</i></li> <li>❖ <i>Construct with a purpose in mind, using a variety of resources</i></li> <li>❖ <i>Model how to create moving pictures</i></li> <li>❖ <i>Model the correct language for how products work eg pull, push, twist, turn, scrunch, fold, concertina.</i></li> <li>❖ <i>Begin to understand and demonstrate how structures can be stronger, stiffer and more stable.</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Understand about the simple working characteristics of materials and components</i></li> <li>❖ <i>Understand about the movement of simple mechanisms including levers, sliders (Year 1) wheels and axles (Year 2)</i></li> <li>❖ <i>Understand that food ingredients should be combined according to their sensory characteristics</i></li> <li>❖ <i>Know the correct technical vocabulary for the projects they are undertaking</i></li> <li>❖ <i>Understand how freestanding structures can be made stronger, stiffer and more stable</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Understand how to use learning from science and maths to help design and make products that work</i></li> <li>❖ <i>Know that materials have both functional properties and aesthetic qualities</i></li> <li>❖ <i>Know that materials can be combined and mixed to create more useful characteristics</i></li> <li>❖ <i>Know that mechanical and electrical systems have an input, process and output Use the correct technical vocabulary for the projects they are undertaking</i></li> </ul>
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					<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Understand how levers and linkages or pneumatic systems create movement</i></li> <li>❖ <i>Understand how simple electrical circuits and components can be used to create functional products</i></li> <li>❖ <i>Understand how to program a computer to control their products</i></li> <li>❖ <i>Know how to make strong, stiff shell structures</i></li> <li>❖ <i>Know that a single fabric shape can be used to make a 3D textiles product</i></li> <li>❖ <i>Know that food ingredients can be fresh, pre-cooked and processed</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Understand how cams, pulleys and gears create movement</i></li> <li>❖ <i>Understand how more complex electrical circuits and components can be used to create functional products</i></li> <li>❖ <i>Understand how to program a computer to monitor changes in the environment / control their products</i></li> <li>❖ <i>Know how to reinforce/strengthen a 3D framework</i></li> <li>❖ <i>Know that a 3D textiles product can be made from a combination of fabric shapes</i></li> <li>❖ <i>Know that a recipe can be adapted a by adding or substituting one or more ingredients</i></li> </ul>



National Curriculum Subject Content			<ul style="list-style-type: none"> <li>✚ Health and self-care: Children know the importance for a healthy diet and talk about ways to keep healthy and safe.</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✚ use the basic principles of a healthy and varied diet to prepare dishes</li> <li>✚ understand where food comes from</li> </ul>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>✚ understand and apply the principles of a healthy and varied diet</li> <li>✚ prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>✚ understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</li> </ul>
Cooking and nutrition	Where food	<ul style="list-style-type: none"> <li>❖ <i>Where food comes from and names of food through rolling snack, packed lunch time and adult focussed activities</i></li> </ul>	<ul style="list-style-type: none"> <li>❖ <i>Explore and talk about where food comes from during traditional celebrations eg harvest and food around the world at Christmas</i></li> <li>❖ <i>Explore and talk about food produced by farm animals</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Where does food come from?</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</i></li> <li>❖ <i>Know that seasons may affect the food available</i></li> <li>❖ <i>Understand how food is processed into ingredients that can be eaten or used in cooking</i></li> </ul>

<b>Food Prep Cooking and Nutrition</b>	<ul style="list-style-type: none"> <li>❖ <i>Looking at basic hygiene, washing hands before snack and food prep</i></li> <li>❖ <i>Uses tools safely for example cutting vegetables for soup</i></li> <li>❖ <i>Talk about healthy and unhealthy foods and relate common foods to how the body works</i></li> <li>❖ <i>Creating designs with food</i></li> <li>❖ <i>Naming and simple descriptions of food</i></li> <li>❖ <i>Weighing and measuring out food</i></li> <li>❖ <i>Re-enacting food prep in role play inside and outside</i></li> </ul>	<ul style="list-style-type: none"> <li>❖ <i>Independently follow hygiene rules eg washing hands before snack, lunch and food prep</i></li> <li>❖ <i>Sorting healthy and unhealthy foods and starting to explain why certain foods are good for you</i></li> <li>❖ <i>Manipulates materials to achieve a planned effect</i></li> <li>❖ <i>Uses simple tools competently and appropriately</i></li> <li>❖ <i>Using cups and measuring spoons to weigh and measure food</i></li> <li>❖ <i>Re-enacting food prep in role play inside and outside</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Use appropriate equipment to weigh and measure ingredients</i></li> <li>❖ <i>Prepare simple dishes safely and hygienically, without using a heat source</i></li> <li>❖ <i>Use techniques such as cutting</i></li> <li>❖ <i>Name and sort foods into the five groups of the 'eat well' plate</i></li> <li>❖ <i>Know that everyone should eat at least five portions of fruit and vegetables every day</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</i></li> <li>❖ <i>How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</i></li> </ul>

					<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Know that a healthy diet is made up from a variety and balance of different foods and drinks, as depicted in the 'eat well' plate</i></li> <li>❖ <i>Know that to be active and healthy, food is needed to provide energy for the body</i></li> <li>❖ <i>Measure using grams</i></li> <li>❖ <i>Follow a recipe</i></li> </ul>	<p><i>Example</i></p> <ul style="list-style-type: none"> <li>❖ <i>Know that recipes can be adapted to change the appearance, taste, texture and aroma</i></li> <li>❖ <i>Know that different foods contain different substances - nutrients, water and fibre - that are needed for health</i></li> <li>❖ <i>Understand the need for correct storage</i></li> <li>❖ <i>Measure accurately</i></li> <li>❖ <i>Work out ratios in recipes</i></li> </ul>
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