



## DESIGN TECHNOLOGY SKILLS PROGRESSION



	<b>Creating with Materials ELG</b>		<b>Key Learning Linked to Designing and Making</b>			
<b>EYFS</b>	<ul style="list-style-type: none"> <li>Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>Share their creations, explaining the process they have used.</li> <li>Make use of props and materials when role playing characters in narratives and stories.</li> </ul>	<p><b>Explore:</b> Experiment and build with a range of construction resources and find out about the properties and functions of different construction materials.</p> <p><b>Design:</b> Talk about their ideas, choose resources, tools and techniques with a purpose in mind.</p> <p><b>Make:</b> Make models and props using different construction materials including construction kits. Experiment with different ways to build, construct and join resources. Make props to use in their play /role play when acting out stories/taking on story characters.</p>	<p><b>Physical skill:</b> Manipulate, control and explore a range of tools and equipment for different purposes. Use tools and equipment safely.</p> <p><b>Evaluate:</b> Talk about what they like/dislike about their models /constructions / props say why and how they would change them.</p> <p><b>Tools and equipment:</b> Use equipment and tools to build, construct and make simple models and props; use tools and equipment linked to food preparation.</p> <p><b>Safety:</b> Understand and follow rules on how to keep safe when using and transporting tools, equipment and resources.</p>	<p><b>Observation:</b> Observe and notice features and details within real objects, pictures and photographs they experience within their world. Talk about what they see using vocabulary associated with texture, colour, patterns, shapes, form, etc.</p> <p><b>Communication:</b> Talk about what they are creating and explain the processes, techniques and materials/media they have used including colours, patterns, shapes, textures, form. Share their ideas and thoughts about their creations with others.</p>		
<b>Breadth of Study</b>	<b>KS1</b>		<b>KS2</b>			
	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, enterprise, leisure, industry and the wider environment].					
<b>Developing, Planning and Communicating Ideas</b>	<b>KS1 N.C. Content</b>		<b>KS2 N.C. Content</b>			
	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.		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.			
	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>	<b>Y6</b>
	<p>Draw on their own experience through practical research to help generate ideas and criteria.</p> <p>Begin to understand the development of existing products: explain what they are for, how they work, what materials have been used and who might use them.</p> <p>Suggest ideas and explain what they are going to do.</p> <p>Understand how to identify a target group/ a need for what they intend to design and make based on design criteria.</p> <p>Develop their ideas through talk and simple drawings, applying findings from earlier research</p> <p>Communicate with others about how they want to construct their product.</p> <p>Model and try out their ideas in card and paper</p>	<p>Generate ideas by drawing on their own and other people's experiences.</p> <p>Develop their design ideas through discussion, observation, drawing and modelling.</p> <p>Identify a purpose for what they intend to design and make.</p> <p>Understand how to identify a target group, function and purpose for what they intend to design and make.</p> <p>Identify simple design criteria.</p> <p>Develop their ideas through talk and drawings and label parts.</p> <p>Begin to explain why they chose a certain material or component with reference to its properties.</p> <p>Start to order the main stages of making a product.</p>	<p>Generate ideas for an item considering its purpose and user.</p> <p>Develop design criteria for a successful product based on its purpose.</p> <p>When planning, explain their choice of materials and components referring to function and aesthetics.</p> <p>Make labelled drawings when designing, including attempting an exploded diagram.</p> <p>Put together a step by step plan which shows the order of construction and equipment and tools needed.</p> <p>Explore, develop and communicate design proposals by modelling ideas.</p>	<p>Generate ideas, considering the purposes for which and users for whom they are designing.</p> <p>Develop design criteria for a product based on user, purpose and functionality.</p> <p>Confidently make labelled drawings from different views showing specific features</p> <p>Develop a clear plan of construction with choice and use of materials, equipment and tools, and suggesting alternative methods if the first attempt fails.</p> <p>When planning, explain their choice of materials and components including function and aesthetics and consider the views of others to improve their work.</p> <p>Identify criteria that can be used for their own designs when evaluating existing products.</p>	<p>Start to generate, develop, model and communicate their ideas through discussion, annotated sketches and exploded diagrams.</p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>Use results of investigations, information sources, including ICT when developing design ideas.</p> <p>With growing confidence, apply a range of finishing techniques, including those from art and design.</p> <p>Draw up a specification for their design (link with mathematics and science).</p> <p>With growing confidence, plan how to use select appropriate materials, tools, processes and techniques.</p> <p>Show some understanding of how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p> <p>Produce a detailed step-by step plan.</p> <p>Suggest some alternative plans and say what the good points and drawbacks are about each.</p> <p>Explain how their product will appeal to the user.</p>	<p>Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross sectional and exploded diagrams, prototypes, patterns and CAD.</p> <p>Confidently use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.</p> <p>Accurately apply a range of finishing techniques, including those from art and design.</p> <p>Confidently draw up a specification for their design (link with mathematics and science).</p> <p>Plan the order of their work, choosing appropriate materials, tools and techniques.</p> <p>Suggest, compare and evaluate alternative methods of making should the first attempts fail.</p> <p>Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.</p> <p>Use market research to inform plans.</p> <p>Suggest ideas about how their product could be sold and work within a given budget.</p>

		KS1 N.C. Content		KS2 N.C. Content			
		Y1	Y2	Y3	Y4	Y5	Y6
Working with Tools, Equipment, Materials and Components to Make Quality Products	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.		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.				
	Use tools e.g. scissors and a hole punch safely. Select and use appropriate materials, ingredients, processes and tools	Begin to select tools and materials and use correct vocabulary to name and describe them. Use hand tools safely and with some accuracy.	Select tools and techniques for making their product. Explain their choice of tools and equipment in relation to the skills and techniques they will be using.	Select and wider range of tools and techniques for making their product safely.	Select appropriate materials, tools and techniques for cutting, shaping, joining and finishing, accurately. Use skills in using different tools and equipment safely and accurately.	Confidently select appropriate tools, materials, components and techniques and use them with accuracy. Use a wide variety of tools safely and with accuracy.	
	With help, measure, mark out, cut and shape a range of materials.	Measure and cut with some accuracy.	Measure, mark out, cut and assemble components with more accuracy.	Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques.	Measure and mark out accurately. Weigh and measure accurately (time, dry ingredients, liquids).	Measure and mark out accurately. Weigh and measure accurately (time, dry ingredients, liquids).	
	Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Identify and talk about products which use electricity to make them work Assemble, join and combine materials and components together using a variety of methods e.g. glues, sticky tape or masking tape. Join fabric using a running stitch, glue and tape.	Build structures, exploring how they can be made stronger, stiffer and more stable. Assemble, join and combine materials in order to make a product. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	Investigate and use a simple pneumatic system. Work safely and accurately with a range of simple tools Make choices of materials both for its appearance and qualities. Demonstrate and perseverance to refine and improve their products.	Combine and join components and materials in different ways. Cut, pin and use a range of different stitches to join fabric. Use simple electrical circuits and mechanical systems. Demonstrate resilience and perseverance to refine and improve their products.	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. Combine components and materials in different ways with accuracy. Use more complex components to create functional products and begin to use ICT to control mechanisms. Demonstrate motivation, resilience and perseverance to refine and improve their products.	Aim to make and to achieve a quality product, making modifications as they go. Combine and assemble complex electrical circuits and components to create functional products and use ICT to control them. Make decisions and select and combine the most appropriate mechanical systems for a particular purpose. Demonstrate independence, teamwork, motivation, resilience and perseverance to refine and improve their products.	
	Use simple finishing techniques to improve the appearance of their product.	Choose and use appropriate finishing techniques based on their own ideas.	Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment.	Use some finishing techniques to strengthen and improve the appearance of their product using a range of equipment.	Use a variety of finishing techniques to strengthen and improve the appearance of their product ensuring a good quality finish.	Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment.	
Evaluating Processes and Products	KS1 N.C. Content		KS2 N.C. Content				
	Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.		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.				
	Y1	Y2	Y3	Y4	Y5	Y6	
Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make as they progress Begin to evaluate their product by discussing how well it works in relation to its purpose. When looking at existing products, Pupils explain what they like and dislike about the products and why.	Evaluate their work against their design criteria. Look at a range of existing products and explain what they like and dislike about products and why. Evaluate their products as they are developed, identifying strengths and possible changes they might make as they progress. Talk about their ideas throughout the process, saying what they like and dislike in relation to the strengths and weaknesses of their product.	Begin to evaluate their product against their original design criteria (e.g. how well it meets its design purpose). Suggest improvements to their design throughout the design process and begin to adapt their design accordingly. Begin to evaluate familiar products, considering purpose and function. Consider the views of others to improve their own products.	Evaluate their product throughout the process making some simple changes where necessary. Evaluate their products carrying out simple tests. Consider the views of others when evaluating their product against the design criteria. Evaluate their products, thinking of both appearance and function.	Evaluate a product against the original design specification and by carrying out appropriate tests. Evaluate their work both during and at the end of the assignment and seek evaluation from others. Evaluate appearance and function against original criteria.	Evaluate their products in relation to purpose, user and function, identifying strengths and areas for development and carrying out appropriate tests. Evaluate their work continuously both during and at the end of the assignment and frequently seek evaluation from others. Record their evaluations using drawings with labels.		



KS1 N.C. Content		KS2 N.C. Content				
		Y1	Y2	Y3	Y4	Y5
Use the basic principles of a healthy and varied diet to prepare dishes. Understand where food comes from.		Understand and apply the principles of a healthy and varied diet. Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.				
Cooking & Nutrition	<p>Understand that all food comes from plants or animals.</p> <p>Name some foods and begin to sort foods into the five groups.</p> <p>Know that everyone should eat at least five portions of fruit and vegetables every day.</p> <p>Know how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Begin to use techniques such as cutting, peeling and grating.</p>	<p>Understand that all food comes from plants or animals and identify foods that are grown, reared and caught.</p> <p>Develop understanding of where different foods come from and also food from native to different countries.</p> <p>Understand how to name and sort foods into the five groups.</p> <p>Recognise the need for a variety of food in a diet.</p> <p>Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.</p> <p>Use a vegetable knife with a fork to hold ingredients while cutting.</p> <p>Demonstrate techniques such as cutting, peeling and grating..</p>	<p>Know that food is grown, reared and caught in the UK, Europe and the wider world.</p> <p>Understand how to use a range of techniques such as peeling, chopping, cutting, slicing, grating and spreading.</p> <p>Use a vegetable knife (with a fork to hold ingredients and a grater.</p> <p>Know that a healthy diet is made up from a variety and balance of different food and drink.</p> <p>Know that to be active and healthy, food and drink are needed to provide energy.</p>	<p>Know that different foods are grown, reared and caught in the UK, Europe and the wider world.</p> <p>Understand how to prepare and cook predominantly savoury dishes including having experience of using a heat source.</p> <p>Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Measure and weigh ingredients accurately.</p> <p>Understand why a healthy diet is important.</p> <p>Know that to be active and healthy, food and drink are needed for growth and energy.</p> <p>Understand what to do to be safe and hygienic.</p>	<p>Begin to explain how ingredients are grown, reared and caught in the UK, Europe and the wider world.</p> <p>Understand that seasons may affect the availability of food.</p> <p>Understand how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Know how to prepare and cook a variety of predominantly savoury dishes including with the use of a heat source.</p> <p>Demonstrate increasing confidence in how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Evaluate a meal they have made and consider how it contributes towards a balanced diet.</p> <p>Recognise that different food and drink contain different substances that are needed for health.</p> <p>Begin to select and use appropriate tools and equipment, including for weighing and measuring.</p>	<p>Explain how ingredients are grown, reared and caught.</p> <p>Understand that seasons may affect the availability of food and what types of food are seasonal in Britain</p> <p>Explain how food is processed into ingredients that can be eaten or used in cooking.</p> <p>Prepare and cook a variety of predominantly savoury dishes safely and hygienically including with the use of a heat source.</p> <p>Confidently use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p> <p>Know different food and drink contain different substances that are needed for health.</p> <p>Use appropriate tools and equipment, weighing and measuring accurately.</p> <p>Consider the costs (financial and environmental) when planning a healthy and affordable meal</p>

Vocabulary	general	design plan investigate materials tools make evaluate	user purpose product ideas	label problem-solving adapt diagram labelled drawing evaluate	user purpose design criteria product function design plan	model design evaluate prototype investigate plan construction sequence appealing	intended user purpose function functional design criteria exploded diagram annotated sketch adapt modify	evaluate prototype purpose function appealing planning adapt modify	innovative evaluation annotated sketch construction sequence design brief design criteria intended user	design decisions design specification design brief design criteria evaluate mock-up prototype modify	annotate plan of construction annotated sketch exploded diagram cross-sectional diagram	authentic functional functionality innovative affordability appeal	intended user purpose function research innovation
	mechanisms	names of tools, equipment and materials used		names of tools, equipment and materials used		names of tools, equipment and materials used		names of tools, equipment and materials used		names of tools, equipment and materials used		names of tools, equipment and materials used	
		slider lever pivot slot bridge/guide, card, masking tape paper fastener join	pull push up down straight curve forwards backwards	wheel axle axle holder chassis fixed free moving	mechanism vehicle assembling cutting joining shaping finishing	mechanism pneumatic system compress pressure push/pull condense force action/reaction cause/effect input/output	strengthen stiffen stable stability fixed moving component	series circuit connection switch battery (holder) bulb (holder) wire insulator conductor crocodile clip control system	mechanism lever linkage pivot slot bridge guide system input/output process linear/ rotary motion	cam rotation spindle driver follower handle system	round egg-shaped ellipse eccentric snail hexagon action	tilt switch bulb (holder) battery (holder) wire insulator conductor crocodile clip control	program system input device output device series circuit parallel circuit
	structures	cut fold join fix weak/strong stable thinner/thicker	fixed joint moving joint reduce/reuse/recycle material paper card glue tape names of shapes & properties	structure framework base top/side/edge surface corner straight	structure net length width stiff strong stable unstable	3-D shape marking out shaping adhesives material reduce, reuse, recycle score	assemble joining (fixed, moving) tabs accuracy font lettering text graphics	frame structure shell structure stiffen strengthen reinforce stability shape	score tab temporary permanent join joint				
	textiles	needle pin (cushion) thread stitch knot	join template pattern pieces mark out cover	decorate finish fabric names of fabrics & components	fastening button zip hook compartment	structure finishing technique strength/weakness stiffening templates	fabric names of fabrics stitch seam seam allowance	seam seam allowance hem reinforce right side/wrong side	template pattern pieces pinking shears durability wadding	name of textiles and fastenings used			
	food	sensory vocab soft/hard juicy crunchy crisp sweet sticky smooth sharp sour hard colourful  shop supermarket factory farm	names of equipment and utensils used slice peel cut chop squeeze juice  fruit and vegetable names flesh skin/peel seed/pip/stone core salad	clean hygienic healthy diet balance choosing ingredients carbohydrate fruit vegetables protein dairy fat sugar tinned fresh frozen	names of products, equipment, utensils, techniques and ingredients  texture taste flavour sweet/sour hot spicy appearance smell moist/dry savoury bake cook prepare hygienic	harvested grown reared caught seasonal processed fresh dried grate chop slice peel spread	ingredients balance amount quantity carbohydrate fruit vegetables fibre protein dairy fat sugar diet	names of products, equipment, utensils, techniques and ingredients  ingredients spice herbs fat sugar carbohydrate protein vitamins nutrients nutrition healthy varied edible calories nutritional information	allergy intolerance savoury source seasonal tinned grown reared harvested farmed caught processed fresh frozen dried	utensils combine fold stir pour mix whisk beat knead roll out shape sprinkle crumble			