

GAINFORD CE PRIMARY SCHOOL AND PRESCHOOL :DESIGN and TECHNOLOGY PROGRESSION OF SKILLS

		EYFS	
PRE-SCHOOL RECEPTION	<p>ELG: Creating with Materials</p> <p>Children at the expected level of development will:</p> <ul style="list-style-type: none"> • 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"> • Explore different materials freely. • Develop ideas of what to use and how to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. • Create closed shapes with continuous lines and begin to use these shapes to represent objects. • 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. 	<p>Ensure opportunities to explore scale such as using long strips of wallpaper; different sized boxes; different surfaces e.g., tabletop, easel, floor.</p> <p>Provide equipment which extends and challenges learning e.g., glue, Sellotape, paperclips, split pins and teach how these can be used.</p> <p>Encourage children to think about and explain what they want to create before offering suggestions.</p>
		KEY STAGE 1	LOWER KEY STAGE 2 UPPER KEY STAGE 2
DESIGN	Pupils should be taught to:	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 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
	Contexts, uses and purposes	State the purpose of the design and the intended user Explore materials, make	Gather information about the needs and wants of individuals and groups. Develop their own design criteria and Carry out research, using surveys, interviews, questionnaires, and web-based resources. Identify the needs,

		templates and mockups e.g., moving picture / lighthouse.	use these to inform their ideas. Research designs.	wants, preferences and values of individuals and groups. Develop a simple design specification to guide their thinking. Recognise when their products must fulfil conflicting requirements.
	IDEAS	Generate own ideas for design by drawing on own experiences or from reading.	Share and clarify ideas through discussion. Model their ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings, and diagrams. Use computer-aided design.	Generate innovative ideas, drawing on research. Make design decisions, taking account of constraints such as time, resources, and cost. Develop prototype.
MAKE	Pupils should be taught to	Select from and use a range of tools and equipment to perform practical tasks [e.g., 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 [e.g., 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.	
	PLANNING	Select from a range of tools and equipment explaining their choices Select from a range of materials and components according to their characteristics.	Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Select materials and components suitable for the task. Explain their choice of materials and components according to functional properties and aesthetic qualities. Order the main stages of making. Produce detailed lists of tools, equipment, and materials that they need.	
	PRACTICAL SKILLS AND TECHNIQUES	Follow procedures for safety. Use and make own templates. Measure, mark out, cut out and shape materials and components. Assemble, join, and combine materials and components. Use simple fixing materials e.g.,	Follow procedures for safety. Use a wider range of materials and components, including construction materials and kits, textiles, food ingredients, mechanical components, and electrical components.	

		temporary – paper clips tape and permanent – glue, staples. Use finishing techniques, including those from art and design.	Measure, mark out, cut, and shape materials and components with some accuracy. 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.	Accurately measure to nearest mm, mark out, cut, and shape materials and components. Accurately assemble, join, and combine materials/ components. Accurately apply a range of finishing techniques, including those from art and design. Use techniques that involve a number of steps. Demonstrate resourcefulness, e.g., make refinements.
EVALUATE	Pupils should be taught to:	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. Understand how key events and individuals in design and technology have helped shape the world.	
	Own ideas and Products	Talk about their design ideas and what they are making. Make simple judgements about their products and ideas against design criteria. Suggest how their products could be improved. Evaluating products and components used.	Identify the strengths and weaknesses of their ideas and products Consider the views of others, including intended users, to improve their work Refer back to their design criteria as they design and make Use their design criteria to evaluate their completed products	
			Identify the strengths and weaknesses of their ideas and products Consider the views of others, including intended users, to improve their work	Critically evaluate the quality of the design, manufacture, and fitness for purpose of their products as they design and make Compare their ideas and products
	Existing Products	Investigate - what products are, who they are for, how they are made and what materials are used.	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.	
Investigate - who designed and made the products, where products were designed and made, when products			Investigate - how much products cost to make, how innovative products are and	

			were designed and made and whether products can be recycled or reused.	how sustainable the materials in products are.
	Key Events/ individuals		Identify great designers and their work and use research of designers to influence work.	
Technical Knowledge	Pupils should be taught to:	Build structures, exploring how they can be made stronger, stiffer, and more stable. Explore and use mechanisms [e.g., levers, sliders, wheels, and axles], in their products.	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 and use electrical systems in their products [e.g., series circuits incorporating switches, bulbs, buzzers, and motors]. Apply their understanding of computing to program, monitor and control their products.	
	Making Products Work	Understand about the simple working characteristics of materials and components. Understand about the movement of simple mechanisms including levers, sliders (Year 1) wheels and axles (Year 2). Understand that food ingredients should be combined according to their sensory characteristics. Know the correct technical vocabulary for the projects they are undertaking. Understand how freestanding structures can be made stronger, stiffer, and more stable.	Understand how to use learning from science and maths to help design and make products that work. Know that materials have both functional properties and aesthetic qualities. Know that materials can be combined and mixed to create more useful characteristics. Know that mechanical and electrical systems have an input, process and output. Use the correct technical vocabulary for the projects they are undertaking.	Understand how levers and linkages or pneumatic systems create movement. Understand how simple electrical circuits and components can be used to create functional products. Understand how to program a computer to control their products. Know how to make strong, stiff shell structures. Know that a single fabric shape can be used to make a 3D textiles product. Know that food ingredients can be fresh, pre-cooked and processed.
				Understand how cams, pulleys and gears create movement. Understand how more complex electrical circuits and components can be used to create functional products. Understand how to program a computer to monitor changes in the environment / control their products. Know how to reinforce/strengthen a 3D framework. Know that a 3D textiles product can be made from a combination of fabric shapes. Know that a recipe can be adapted a by adding or substituting one or more ingredients.
COOKING AND NUTRITION	Pupils should be taught to:	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.	
	Where food comes from	Know where food comes from.	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. Know that seasons may affect the food available. Understand how food is processed into ingredients that can be eaten or used in cooking.	
	Food Preparation, Cooking and Nutrition	Use appropriate equipment to weigh and measure ingredients. Prepare simple dishes safely and hygienically, without using a heat sources. Use techniques such as cutting. Name and sort foods into the five groups of the 'eat well' plate. Know that everyone should eat at least five portions of fruit and vegetables every day.	How to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. How to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading, and baking.	
			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. Know that to be active and healthy, food is needed to provide energy for the body. Measure using grams. Follow a recipe	Know that recipes can be adapted to change the appearance, taste, texture, and aroma. Know that different foods contain different substances - nutrients, water, and fibre - that are needed for health. Understand the need for correct storage. Measure accurately. Follow a recipe