



Rakegate Progression of Skills Lower Key stage 2 Subject: D&T		
National Curriculum	<p>Design</p> <ul style="list-style-type: none"> ♣ 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 <p>Make</p> <ul style="list-style-type: none"> ♣ 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 <p>Evaluate</p> <ul style="list-style-type: none"> ♣ 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 <p>Technical knowledge</p> <ul style="list-style-type: none"> ♣ 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 [for example, series circuits incorporating switches, bulbs, buzzers and motors] ♣ apply their understanding of computing to program, monitor and control their products. 	
	Year 3	Year 4
Design	<p>Use knowledge of a range of products to inform plans and designs.</p> <p>Talk about and disassemble products and describe their function. Use simple prototypes, labelled sketches and instructions in plans and designs.</p> <p>Describe the purpose of their products.</p> <p>Develop a design criteria to inform a design.</p> <p>Model ideas using prototypes.</p> <p>Use annotated diagrams and some computer aided design packages to develop ideas.</p>	<p>Use research to develop design criteria that are fit for purpose.</p> <p>Disassemble products and describe some of their functions.</p> <p>Use annotated sketches, cross-sectional, exploded diagrams to aid with design</p> <p>Describe the purpose of their products, indicate design features of their products.</p> <p>Gather information about the needs and wants of the user.</p> <p>Develop their own design criteria and use this to inform their ideas. Model ideas using prototypes and pattern pieces.</p> <p>Use annotated sketches, some cross-sectional drawings and computer aided design packages to develop and communicate ideas.</p>



			Make design decisions that take account of the availability of resources.
	Make	<p>Use a wide range of materials and components. E.g. mechanical, construction kits, electrical and food ingredients.</p> <p>Select some materials and components suitable for the task in hand.</p> <p>Select and use a range of tools suitable to the task to cut, shape and join materials and components.</p> <p>Confidently select and use tools and equipment suitable to the task to measure, mark out, cut and shape materials.</p> <p>Use a ruler to measure and mark lines for cutting.</p> <p>Make gluing tabs.</p> <p>Applies some finishing techniques.</p> <p>Select an appropriate way to improve the appearance of a product.</p> <p>Follow procedures for safety and hygiene.</p>	<p>Select from and use an extensive range of materials and components according to both functional and aesthetic qualities. E.g. Mechanical, construction kits, electrical and food ingredients.</p> <p>Confidently select and use tools and equipment suitable to the task to measure, mark out, cut and shape materials and components.</p> <p>Use a ruler to measure and mark lines for cutting with some accuracy. Make and use gluing tabs.</p> <p>Applies some finishing techniques and select an appropriate way to improve the appearance of a product.</p> <p>Insert paper fasteners for card linkages.</p> <p>Accurately assembles, joins and combines most materials. Follow procedures for safety and hygiene.</p>
	Evaluate	<p>investigate and compare a range of similar existing products.</p> <p>Identify the strengths and weaknesses in their design ideas and products.</p> <p>Suggest improvements for their product.</p> <p>Investigate and analyse how well products have been designed and made; which materials and methods were used and were successful; how well the products worked and suggest ways in which products can be improved.</p>	<p>Investigate and begin to analyse a range of existing products.</p> <p>Evaluate ideas and products against own design criteria.</p> <p>Identify the strengths and areas for development in their ideas and products.</p> <p>Use their design criteria to evaluate and improve their completed products.</p> <p>Recognise several inventors, designers, chefs, manufacturers, and engineers, who have been influential in the design and technology industries.</p>



	<p>Cooking and Nutrition</p>	<p>Sort and classify an increasing range of food according to specific food groups, e.g. proteins, carbohydrates, fats etc.</p> <p>Recognise that a healthy diet is made up of a variety and balance of different foods and drinks as depicted on 'The Eatwell Plate'.</p> <p>Know that to be active and healthy, food is needed to provide energy for the body.</p> <p>Talk about what needs to be done in order to work safely and hygienically.</p> <p>Begin to measure and weigh using scales.</p> <p>Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p>	<p>Know that food is farmed, reared, grown (home allotments), exported, imported or caught locally, regionally and internationally.</p> <p>Gain an understanding of the ways in which specific food groups apply to the principles of a health and varied diet.</p> <p>Know that a healthy diet is made up of a variety and balance of different foods and drinks as depicted on 'The Eatwell Plate.'</p> <p>Identify what needs to be done in order to work safely and hygienically when working on a range of tasks.</p> <p>measure and weigh using standard units and scales.</p> <p>Know how to prepare and cook a variety of savoury and some sweet dishes safely and hygienically, including the use of a heat source.</p> <p>Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.</p>
	<p>Construction Mechanics and electronics</p>	<p>Make vehicles using construction kits with free running wheels.</p> <p>Construct a simple lever with support.</p> <p>Use small scale construction materials.</p> <p>With support measure, mark out and cut a range of materials Cut slot sand internal shapes</p>	<p>With support cut wood/dowel with a hacksaw</p> <p>Construct a range of simple structures</p> <p>Make a structure more stable by widening the base.</p> <p>Use materials to practise drilling, screwing, nailing and gluing to strengthen products to enable the object to move.</p> <p>Attach wheels to a chassis using an axle e.g. cotton reels and dowel.</p> <p>Make a lever and a hinge using cardboard.</p> <p>Create a series circuit using a switch, a bulb, a buzzer and a motor.</p>



'Working together to achieve our best.'

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