

Ebchester CE Primary School

Progression of Learning – *Design and Technology* KS2



By the end of KS2			
	Breadth of Study	Knowledge and Skills – Lower KS2	Knowledge and Skills – Upper KS2
Design	<p>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</p> <p>Generate, develop model and communicate their ideas through discussion, annotate sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>	<p>By the end of Year 4, pupils will be able to:</p> <ul style="list-style-type: none"> • Describe the purpose of their product • Explain in basic terms how particular parts of their products work • Gather information about the needs and wants of individuals and groups • Generate realistic ideas, focusing on the needs of the user • Develop their own design criteria and use these to inform their ideas • Share and clarify their ideas through discussion • Use annotated diagrams and cross-sectional drawings to develop and communicate their ideas • Make design decisions that take account of the availability of resources 	<p>By the end of Year 6, pupils will be able to:</p> <ul style="list-style-type: none"> • Indicate the design features of their products that will appeal to intended users • Explain in detail, using technical vocabulary, how particular parts of their products work • Carry out research using surveys, interviews, questionnaires and web-based resources • Identify the needs, wants preferences and values of individuals and groups • Generate innovative ideas, drawing on research • Use computer-aided design to develop and communicate their ideas • Make design decisions, taking account of constraints such as time, resources and cost

<p>Make</p>	<p>Select from and use a wide range of tools and equipment to perform practical tasks accurately</p> <p>Select from and use wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p>	<p>By the end of Year 4, pupils will be able to:</p> <ul style="list-style-type: none"> • Select tools and equipment suitable for the task, explaining their choice • Select materials and components suitable for the task, explaining their choice • Order the main stages of making • Follow procedures for safety and hygiene • Measure, mark out, cut and shape materials and components with some accuracy to the nearest cm • Assemble, join and combine materials and components with some accuracy • Apply a range of finishing techniques, including those from art and design, with some accuracy 	<p>By the end of Year 6, pupils will be able to:</p> <ul style="list-style-type: none"> • Explain their choice of tools and equipment in relation to the skills and techniques they will be using • Explain their choice of materials and components according to functional properties and aesthetic qualities • Produce appropriate lists of tools, equipment and materials that they need • Formulate step-by-step plans as a guide to making • Accurately measure, mark out, cut and shape materials and components to the nearest mm • Accurately assemble, join and combine materials and components • Accurately apply a range of finishing techniques, including those from art and design • Demonstrate resourcefulness when tackling practical problems
<p>Evaluate</p>	<p>Investigate and analyse a range of existing products</p> <p>Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work</p> <p>Understand how key events and individuals in design and technology have helped to shape the world</p>	<p>By the end of Year 4, pupils will be able to:</p> <ul style="list-style-type: none"> • Identify the strengths and areas for development in their ideas and products • Refer to their design criteria as they design and make • Use their design criteria to evaluate their completed products • Investigate who designed and made existing products • Investigate where and when existing products were designed and made • Investigate whether products can be recycled or reused 	<p>By the end of Year 6, pupils will be able to:</p> <ul style="list-style-type: none"> • 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 • Investigate how much existing products cost to make • Analyse how innovative existing products are • Investigate how sustainable the materials in existing products are • Research and learn about inventors, designers, engineers, chefs and

		<ul style="list-style-type: none"> • Research and learn about inventors 	<p>manufacturers who have developed ground-breaking products</p>
Technical Knowledge	<p>Apply their understanding of to strengthen, stiffen and reinforce more complex structures</p> <p>Understand and use mechanical systems in their products</p> <p>Understand and use electrical systems in their products</p> <p>Apply their understanding of computing to programme, monitor and control their products.</p>	<p>By the end of Year 4, pupils will be able to:</p> <ul style="list-style-type: none"> • Know that materials have both functional properties and aesthetic qualities • Know that mechanical and electrical systems have an input, process and output • Understand how mechanical systems such as levers or pneumatic systems create movement • Understand how simple electrical circuits and components can be used to create functional products • Understand how to make strong stiff shell structures 	<p>By the end of Year 6, pupils will be able to:</p> <ul style="list-style-type: none"> • Explain their choice of materials in order to make their product functional and aesthetically pleasing • Explain the mechanical and electrical systems and an inputs, processes and outputs in products • Understand how mechanical systems such as cams or pulleys or gears create movement • Understand how series electrical circuits and components can be used to create functional products • Know how to reinforce and strengthen a 3D framework
Cooking and Nutrition	<p>Understand and apply the principles of a healthy and varied diet</p> <p>Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</p> <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</p>	<p>By the end of Year 4, pupils will be able to:</p> <ul style="list-style-type: none"> • 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 a healthy diet is made up from a variety and balance of different food and drink, as in the Eatwell plate • Prepare and cook a savoury dish safely and hygienically including the use of a heat source • Know how to use a range of techniques such as peeling, chopping, slicing, 	<p>By the end of Year 6, pupils will be able to:</p> <ul style="list-style-type: none"> • Know that seasons may affect the food available • Know how food is processed into ingredients that can be eaten or used in cooking • Know that recipes can be adapted to change the appearance, taste, texture and aroma • Prepare and cook a variety of predominantly savoury dishes safely and hygienically including the use of a heat source • Select the appropriate tools to use a range of techniques such as peeling, chopping,

		grating, mixing, spreading, kneading and baking	slicing, grating, mixing, spreading, kneading and baking and apply these in a recipe
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