

## WHITLEY MEMORIAL C of E AIDED PRIMARY SCHOOL



**'Let your light shine' – Matthew 5:16**

### Curriculum Planning

### Subject: DESIGN & TECHNOLOGY- MATERIALS

<b>Overview</b>	<p><b>Key Stage 1</b></p> <p>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, industry and the wider environment].</p> <p><b>Design</b></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><b>Make</b></p> <ul style="list-style-type: none"><li>• select from and use a range of tools and equipment to perform practical tasks [for example, 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 characteristics</li></ul> <p><b>Evaluate</b></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></ul> <p><b>Technical knowledge</b></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 [for example, levers, sliders, wheels and axles] in their products</li></ul> <p><b>Cooking and Nutrition</b></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><b>Key Stage 2</b></p> <p>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, school, leisure, culture, enterprise, industry and the wider environment].</p> <p>When designing and making, pupils should be taught to:</p> <p><b>Design</b></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> <p><b>Make</b></p> <ul style="list-style-type: none"><li>• select from and use a wider range of tools and equipment to perform practical tasks [for example, 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> <p><b>Evaluate</b></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>
-----------------	---

# WHITLEY MEMORIAL C of E AIDED PRIMARY SCHOOL



**'Let your light shine' – Matthew 5:16**

	<p><b>Technical knowledge</b></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 [for example, series circuits incorporating switches, bulbs, buzzers and motors]</li> <li>• apply their understanding of computing to program, monitor and control their products</li> </ul> <p><b>Cooking and Nutrition</b></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>					
Year Group	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Key Learning:</b> National Curriculum knowledge covered</p> <p><b>Key Progressive Skills:</b> National Curriculum skills covered</p>	<p>To cut materials safely using tools provided.</p> <p>To demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).</p> <p><i>To plan and develop ideas through comparison of existing products, discussion, drawings and using templates and evaluate ideas and completed projects verbally</i></p>	<p>To measure and mark out to nearest cm.(<b>Why do we remember Grace Darling?, Polar Express, Happily ever after, Fire! Fire!, Life on the ocean wave</b>)</p> <p>To demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).</p> <p><b>(Why do we remember Grace Darling?, Polar Express, Happily ever after, Fire! Fire! Life on the ocean wave )</b></p> <p><i>To plan and develop ideas through comparison of existing products, discussion, drawings and using templates and</i></p>	<p>I can cut materials accurately and safely by selecting appropriate tools.</p> <p>I can select appropriate joining techniques.</p> <p><i>To plan and develop ideas through research of existing products, discussion, annotated sketches, using templates and computer-aided design.</i></p> <p><i>To have understanding of how key events and structures have helped shape the world (relevant to current task).</i></p> <p><i>To evaluate ideas and completed projects against a design criteria (success criteria) to improve work.</i></p>	<p>To measure and mark out to the nearest mm.</p> <p>To apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).</p> <p><i>To plan and develop ideas through research of existing products, discussion, annotated sketches, using templates and computer-aided design.</i></p> <p><i>To have an understanding of how key events and structures have helped shape the world (relevant to current task).</i></p> <p><i>To evaluate ideas and completed projects against a design criteria</i></p>	<p>To cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).</p> <p><i>To plan and develop ideas through research of existing products, discussion, annotated sketches, cross-sectional diagrams and computer-aided design.</i></p> <p><i>To have an understanding of how key events and structures have helped shape the world (relevant to current task).</i></p> <p><i>To evaluate ideas and completed projects against a own design criteria (success criteria),</i></p>	

# WHITLEY MEMORIAL C of E AIDED PRIMARY SCHOOL



**'Let your light shine' – Matthew 5:16**

		<i>evaluate ideas and completed projects in written form</i>		<i>(success criteria) to improve work.</i>	<i>decide whether it is fit for purpose and listen to the views of others to improve work.</i>	
<p><b>How the Skills/ Learning Will Take Place</b></p> <p>Eg What will be made? (Use colour coding for topics)</p>	<p>Cutting: Toys: Finger puppet Pop Whizz Bang: Packaging Owl Calendar Once Upon A Time: Hand puppet Barnaby Bear: Slider Folding: Pop Whizz Bang: Biscuit packaging Barnaby Bear: Concertina Loch Ness Monster Paper weaving Joining: Toys: Finger puppet Pop Whizz Bang: Biscuit packaging and Owl Calendar One Upon Time: Hand puppet Barnaby Bear: Loch Ness Monster, slider</p>	<p>Design and make a lighthouse with a pulley for Mr Grinlings lunch</p> <p>Investigate wheels and axels on a range of transport making links to George Stephenson's Rocket.</p> <p>Design and make our own mode of transport, using knowledge learnt about wheels and axels.</p> <p>Explore a range of moving pictures in books.</p> <p>Design and make a moving picture using the criteria found during investigating.</p> <p>Design and make a model of a Tudor house.</p> <p>Make a pirate ship from a piece of A4 paper to hold the most booty.</p> <p>Use a mathematical net to</p>				

WHITLEY MEMORIAL C of E AIDED PRIMARY SCHOOL



***'Let your light shine' – Matthew 5:16***

		make a treasure chest.				
<b>Key Vocabulary</b> National Curriculum and other	Paper, wool, felt, scissors, cut, template, fold, concertina, slider, art straws, card					