

<p><b>Year 4 National Curriculum objectives:</b> Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art.</p>	
<p><b>Year 4 Areas of study:</b>  <b>Pavilions</b>  <b>Making a Slingshot Car</b></p>	<p><b>Design:</b>          Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect • Building frame structures designed to support weight.          • Designing a shape that reduces air resistance • Drawing a net to create a structure from • Choosing shapes that increase or decrease speed as a result of air resistance • Personalising a design.</p>
<p><b>Make:</b>          • Creating a range of different shaped frame structures • Making a variety of free standing frame structures of different shapes and sizes • Selecting appropriate materials to build a strong structure and for the cladding • Reinforcing corners to strengthen a structure • Creating a design in accordance with a plan • Learning to create different textural effects with materials.          Measuring, marking, cutting and assembling with increasing accuracy • Making a model based on a chosen design.</p>	<p><b>Evaluate:</b>          Evaluating structures made by the class • Describing what characteristics of a design and construction made it the most effective • Considering effective and ineffective designs.          Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.</p>
<p><b>Technical:</b>          To understand what a frame structure is • To know that a 'free-standing' structure is one which can stand on its own.          To know that air resistance is the level of drag on an object as it is forced through the air • To understand that the shape of a moving object will affect how it moves due to air resistance.</p>	<p><b>Additional:</b>          To know that a pavilions ia a decorative building or structure for leisure activities • To know that cladding can be applied to structures for different effects. • To know that aesthetics are how a product looks • To know that a product's function means its purpose • To understand that the target audience means the person or group of people a product is designed for • To know that architects consider light, shadow and patterns when designing.          • To know that aesthetics means how an object or product looks in design and technology • To know that a template is a stencil you can use to help you draw the same shape accurately • To know that a birds-eye view means a view from a high angle (as if a bird in flight) • To know that graphics are images which are designed to explain or advertise something •To know that it is important to assess and evaluate design ideas and models against a list of design criteria.</p>

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<p><b>Year 4 Areas of study:</b>  <b>Torches</b>  <b>Adapting a Recipe</b>  <b>Fastenings</b></p>	<p><b>Design:</b></p> <ul style="list-style-type: none"> <li>• Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.</li> <li>Designing a biscuit within a given budget, drawing upon previous taste testing.</li> <li>Writing design criteria for a product, articulating decisions made</li> <li>• Designing a personalised book sleeve.</li> </ul>
<p><b>Make:</b>  Making a torch with a working electrical circuit and switch • Using appropriate equipment to cut and attach materials • Assembling a torch according to the design and success criteria.  Following a baking recipe • Cooking safely, following basic hygiene rules • Adapting a recipe.  Making and testing a paper template with accuracy and in keeping with the design criteria • Measuring, marking and cutting fabric using a paper template • Selecting a stitch style to join fabric, working neatly sewing small neat stitches • Incorporating fastening to a design.</p>	<p><b>Evaluate:</b>  Testing and evaluating the success of a final product and taking inspiration from the completed work.  Evaluating a recipe, considering: taste, smell, texture and appearance • Describing the impact of the budget on the selection of ingredients • Evaluating and comparing a range of products • Suggesting modifications.  Testing and evaluating an end product against the original design criteria • Deciding how many of the criteria should be met for the product to be considered successful • Suggesting modifications for improvement • Articulating the advantages and disadvantages of different fastening types.</p>
<p><b>Knowledge:</b>  To know that an electrical circuit must be complete for electricity to flow • To know that a switch can be used to complete and break an electrical circuit.  To know that the amount of an ingredient in a recipe is known as the 'quantity' • To know that it is important to use oven gloves when removing hot food from an oven • To know the following cooking techniques: sieving, creaming, rubbing method, cooling • To understand the importance of budgeting while planning ingredients for biscuits.  To know that a fastening is something which holds two pieces of material together for example a zipper, toggle, button, press stud and velcro • To know that different fastening types are useful for different purposes • To know that creating a mock up (prototype) of their design is useful for checking ideas and proportions.</p>	<p><b>Additional:</b>  To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens • To know facts from the history and invention of the electric light bulb(s) - by Sir Joseph Swan and Thomas Edison.</p>

