

Excellence and Enjoyment, Everyone and Everything. "God created you to be amazing" Ephesians 2:10

<p>Year 4 DT</p>	<p>Autumn Cooking: bolognaise</p>	<p>Spring Mechanical Systems- Cars</p>	<p>Summer Electrical Torches</p>
<p>Values</p>	<p>Friendship and Love</p>	<p>Respect and responsibility</p>	<p>Perseverance and Hope</p>
<p>National Curriculum</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>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 		

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Overview	<p>Children work together to make their very own Bolognese sauces, following their own recipe methods and designing and making a product for an audience</p>	<p>Children will make nets to form their car bodies based on their own designs, adding the graphics and tabs that will attach to the chassis.</p>	<p>Pupils create a torch design, building on their understanding from and incorporating features they have identified in previous lessons. They then build the circuit and housing for their torches, closely following their own designs.</p>
What we need to know Red Hill Riches	<p>Ingredients needed for a bolognese are balanced and fit on the eat well plate Vegetables need to be cut safely using the 'claw' shape Meat needs to be cooked thoroughly to be safe to eat Meats and vegetables should be prepared separately to avoid contamination A design can be an adaptation of an existing meal A recipe will give you instructions on how to cook a meal</p>	<p>A car needs a strong chassis Wood needs to be cut with specific measurements Joints can be reinforced with cardboard triangles Wheels and an axis affix to a design with an axle holder to allow movement Designs for a vehicle need a certain specification</p>	<p>An electrical circuit can be hidden within a design An electrical motor can support movement A switch can be used within a circuit to turn things on and off A shell structure needs to be created to encase an electrical circuit</p>
Links to prior knowledge (footprints)	<p>To know that the five main food groups are: Carbohydrates, fruits and vegetables, protein, dairy and foods high in fat and sugar.</p> <p>To understand that I should eat a range of different foods from each food group, and roughly how much of each food group.</p> <p>To know that nutrients are substances in food that all living things need to make energy, grow and develop.</p> <p>To know that 'ingredients' means the items in a mixture or recipe.</p>	<p>Wheels need an axle and axle holder</p> <p>A car needs a chassis as a frame</p> <p>Joining techniques are needed to join items</p>	<p>See science progression document.</p>
Vocabulary	<p>Beef, reared, processed, diet, ingredients, supermarket, farm, balanced</p>	<p>Chassis, energy, kinetic, mechanism, air resistance, design, structure, graphics, research, model, template</p>	<p>Battery, bulb, buzzer, conductor, circuit, circuit diagram, electricity, insulator, series, circuit, switch, component, design, design criteria, diagram, evaluation, LED, model, shape, target audience, input, recyclable, theme, aesthetics, assemble, equipment, ingredients, packaging, properties</p>

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<p>Excellence</p> <p>Enjoyment</p> <p>Everyone</p> <p>Everything</p>	<p>Excellence: Tasting, describing and exploring healthy ingredients.</p> <p>Enjoyment: Each lesson will be engaging, creative and enjoyable.</p> <p>Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability.</p> <p>Everything: Every piece of work will be celebrated, every lesson.</p>	<p>Excellence: Understanding the significance of a design brief and exploring how mechanisms work.</p> <p>Enjoyment: Each lesson will be engaging, creative and enjoyable.</p> <p>Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability.</p> <p>Everything: Every piece of work will be celebrated, every lesson.</p>	<p>Excellence: Exploring quality electrical devices and using these to inspire our own designs.</p> <p>Enjoyment: Each lesson will be engaging, creative and enjoyable.</p> <p>Everyone: Each lesson will be inclusive and accessible for all children, regardless of ability.</p> <p>Everything: Every piece of work will be celebrated, every lesson.</p>
<p>Disciplinary Knowledge</p>	<p>Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.</p> <p>Writing an amended method for a recipe to incorporate the relevant changes to ingredients.</p> <p>Cutting and preparing recipes safely.</p> <p>Using equipment safely, including knives, hot pans and hobs.</p> <p>Knowing how to avoid cross-contamination.</p> <p>Following a step-by-step method carefully to make a recipe.</p> <p>Identifying the nutritional differences between different products and recipes.</p> <p>Identifying and describing healthy benefits of food groups.</p>	<p>Designing a shape that reduces air resistance.</p> <p>Choosing shapes that increase or decrease speed as a result of air resistance.</p> <p>Personalising a design.</p> <p>Measuring, marking, cutting and assembling with increasing accuracy.</p> <p>Making a model based on a chosen design.</p>	<p>Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.</p> <p>Making a torch with a working electrical circuit and switch.</p> <p>Using appropriate equipment to cut and attach materials.</p> <p>Assembling a torch according to the design and success criteria. Evaluating electrical products.</p> <p>Testing and evaluating the success of a final product.</p>