

Year3/4 Holly	2.3 PAPER CIRCUITS Make a light up Christmas/Greetings card	2.9 DIPS To design and make a dip party starter	2.5 PNEUMATICS To design and make a pneumatic or hydraulic mechanism – a lifter
Breadth	<p>To explore switches, LEDS, circuits, cells.</p> <p>To design an illuminated greetings card - a circuit considering purpose and user.</p> <p>To consider materials, components and techniques</p>	<p>Design a dip to present as a party starter considering dietary requirements of user, purpose and features- consider flavours, likes and dislikes of user.</p> <p>To consider available seasonal produce</p>	<p>Understand how inputs and outputs effect the direction of force</p> <p>Apply knowledge of levers and frame structures</p>
Threshold Concepts	<p>Master practical techniques – measuring, cutting, punching holes, estimating, assembling components, joining</p> <p>Take inspiration from design – <b>illuminated greetings cards</b></p> <p>Design, make, evaluate and improve.</p>	<p>Master practical techniques – weigh, stir, measure, juice, blend, crush, assembling components</p> <p>Take inspiration from design – <b>guacamole, salsa, hummus, garlic dip</b></p> <p>Design, make, evaluate, improve/adapt</p>	<p>Master practical skills of cutting, measuring, estimating, assembling, joining.</p> <p>Experiment with pistons, cylinders and connecting tubes</p> <p>Take design inspiration from <b>a crane and rising platform</b></p> <p>Design, make, evaluate, improve</p>
Milestones	<p>Create products using electronics kits that employ a number of components (such as LEDs and resistors).</p> <p>Use innovative combinations of electronics (or computing) and mechanics in product designs.</p>	<p>Prepare ingredients hygienically using appropriate utensils.</p> <p>Measure ingredients to the nearest gram accurately.</p> <p>Follow a recipe.</p> <p>Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</p>	<p>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product</p> <p>Make prototypes and modify</p>

	Evaluate the design of products so as to suggest improvements to the user experience.	Design with the user in mind considering what the product will offer.	Evaluate the design of a product to improve the user experience and success.
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