

Year Group and Class	Autumn Term	Spring Term	Summer Term
Year 4/5 Hazel	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	To explore switches, LEDs, circuits, cells. To design an illuminated greetings card - a circuit considering purpose and user. To consider materials, components and techniques	Design a dip to present as a party starter considering dietary requirements of user, purpose and features- consider flavours, likes and dislikes of user. To consider available seasonal produce	Understand how inputs and outputs effect the direction of force Apply knowledge of levers and frame structures
Threshold Concepts	Master practical techniques – measuring, cutting, punching holes, estimating, assembling components, joining Take inspiration from design – illuminated greetings cards Design, make, evaluate and improve.	Master practical techniques – weigh, stir, measure, juice, blend, crush, assembling components Take inspiration from design – guacamole, salsa, hummus, garlic dip Design, make, evaluate, improve/adapt	Master practical skills of cutting, measuring, estimating, assembling, joining. Experiment with pistons, cylinders and connecting tubes Take design inspiration from a crane and rising platform Design, make, evaluate, improve
Milestones	Create products using electronics kits that employ a number of components (such as LEDs and resistors).	Prepare ingredients hygienically using appropriate utensils. Measure ingredients to the nearest gram accurately. Follow a recipe.	Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product Make protoypes and modify

	<p>Use innovative combinations of electronics (or computing) and mechanics in product designs.</p> <p>Evaluate the design of products so as to suggest improvements to the user experience.</p> <p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <p>Make products through stages of prototypes, making continual refinements.</p> <p>Ensure products have a high-quality finish, using art skills where appropriate.</p>	<p>Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).</p> <p>Design with the user in mind considering what the product will offer.</p> <p>Create prototypes and make refinements, enhancements and adaptations</p> <p>Ensure product has a high-quality finish and consider appearance of product and garnish.</p>	<p>Evaluate the design of a product to improve the user experience and success.</p>
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