



Kingsley Primary School - Year 4 - DT Knowledge Progression Sheet

| | Electrical Circuits - Simple circuits and switches | Healthy and varied diet | Mechanisms - Pneumatics |
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| Prior Learning | <ul style="list-style-type: none"> -Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. -Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue. | <ul style="list-style-type: none"> -Know some ways to prepare ingredients safely and hygienically. -Have some basic knowledge and understanding about healthy eating and The eat well plate. -Have used some equipment and utensils and prepared and combined ingredients to make a product. | <ul style="list-style-type: none"> -Explored simple mechanisms, such as sliders and levers, and simple structures. -Learnt how materials can be joined to allow movement. - Joined and combined materials using simple tools and techniques. |
| Designing | <ul style="list-style-type: none"> -Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. -Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. | <ul style="list-style-type: none"> -Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. -Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. | <ul style="list-style-type: none"> -Generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user. -Use annotated sketches and prototypes to develop, model and communicate ideas. |
| Making | <ul style="list-style-type: none"> -Order the main stages of making. -Select from and use tools and equipment to cut, shape, join and finish with some accuracy. -Select from and use materials and components, including construction materials and electrical components | <ul style="list-style-type: none"> -Plan the main stages of a recipe, listing ingredients, utensils and equipment. -Select and use appropriate utensils and equipment to prepare and combine ingredients. | <ul style="list-style-type: none"> -Order the main stages of making. -Select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons. -Select from and use finishing techniques suitable for the product they are creating. |



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| | according to their functional properties and aesthetic qualities. | -Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics. | |
| Evaluating | -Investigate and analyse a range of existing battery-powered products. -Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work. | -Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs. -Evaluate the ongoing work and the final product with reference to the design criteria and the views of others. | -Investigate and analyse books, videos and products with pneumatic mechanisms. Evaluate their own products and ideas against criteria and user needs, as they design and make. |
| Technical Knowledge and Understanding | -Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. -Apply their understanding of computing to program and control their products. -Know and use technical vocabulary relevant to the project. | -Know how to use appropriate equipment and utensils to prepare and combine food. -Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. -Know and use relevant technical and sensory vocabulary appropriately. | -Understand and use pneumatic mechanisms. -Know and use technical vocabulary relevant to the project. |
| Key Vocabulary | series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, control, program, system, input device, output device user, purpose, function, prototype, design criteria, innovative, appealing, design brief | name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations | components, fixing, attaching, tubing, syringe, plunger, split pin, paper fastener, pneumatic system, input movement, process, output movement, control, compression, pressure, inflate, deflate, pump, seal, air-tight, linear, rotary, oscillating, reciprocating, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, research, evaluate, ideas, constraints, investigate |