

Y4 – D&T Design a card - electronics

Inspiration Creativity -		Partnership with parents Community- selling their cards	
Key Questions		Key concepts -electronics	
Design <ul style="list-style-type: none"> - How are electronics used in greeting cards? - How can I incorporate electronics in my card? - What electronic elements have other designers used? - How have other designers used the electronic element? - How does the designers’ card fit with my own design criteria? (functional, appealing etc) - Who is my target audience? - What tools, materials and equipment will I need to create my product? - How will I join the series circuit? - How will I attach the series circuit to the card? - What planned effect do I want to create? 		Skills <ul style="list-style-type: none"> - Generally, there is a good understanding of opportunities for design. - Planning of work flows and careful selection of materials mean work is generally carried out efficiently. - Generally, designs are evaluated and refined throughout a project. - <i>Appropriate tools are generally chosen to safely cut out materials.</i> - <i>There is generally accurate measurement and marking to the nearest millimetre.</i> - <i>Appropriate techniques re generally chosen to cut and shape materials.</i> - <i>Appropriate joining techniques are generally selected and used well.</i> - <i>A growing range of faults (electrical) are correctly identified.</i> - <i>Generally, science knowledge is applied well to create series and parallel circuits in products.</i> - A growing knowledge of a range of notable designers is used to provide inspiration for designs. 	
Make <ul style="list-style-type: none"> - How will I ensure a quality product? 		Also covered in: <ul style="list-style-type: none"> - Y6 Alarming vehicles - Y4 Electricity in science 	
Evaluate <ul style="list-style-type: none"> - How successful is my product? - How well does my card meet my design criteria? - What might I do differently next time? - How could I improve my design and/or electronic element? 		By the end of this unit, children will be able to: <ul style="list-style-type: none"> - Design a product that meets a specific design brief - Apply science knowledge in electronics to make a product - Evaluate and refine a design to improve the quality of a product 	
Knowledge <ul style="list-style-type: none"> - A design criteria ensures the final product meets the design brief - Different electronic elements produce a different outcome for example a blub = light, a buzzer= sound. - Electronical elements can be used for different purposes. For example to entertain. - Not all designs will suit the use of an electronic element - Simple circuits include: cells, wires, bulbs, buzzers and switches 			
Topic Specific Vocabulary Designing eg user, list, label, drawing, ideas, mock-up, choose, decide, evaluate, design criteria, electronic elements, designer Making eg plan, template, mock up, tools, materials, equipment, series circuit, attach, planned effect, join knowledge and understanding, eg product test, improve, effectiveness		NC Subject content <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 individual’s groups - Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design - Select from and use a wider range of tools and equipment to perform practical tasks - Select from and use a wider range of components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities - 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 and use electrical systems in their products 	
Subject Specific/Academic Vocabulary This vocabulary should be explicitly taught in context. Other tier 2 words should also be explored as they are encountered.			
Year 3	Year 4	Year 5	Year 6
Appropriate, features, specific, concept, range, sequence, structure	Economic, identified, potential, procedure, process, variables	Affect, analyse, criteria, demonstrate, specify	Technique, component, justify, outcome
We are Product Designers/Being a Product Designer/I am a Product Designer (entrepreneur) Audience: To sell a card with an electronic element to parents			