St Peter's CE Primary School

DT (Electricity) Topic Overview

Unit Overview:
Through creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They will work in a range of relevant contexts, making a camping lamp (Year 3), a torch head band/hat (year 4 and 5) and a burglar alarm mat (year 5 and 6). When designing and making, pupils will be taught to: Design and 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. To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. Pupils will make by selecting from and use a wider range of tools and equipment to perform practical tasks, for example, cutting, shaping, joining and finishing, accurately. Pupils will 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. As the final part of the unit pupils will evaluate by investigating and analysing a range of existing products and evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Pupils will understand how key events and individuals in design and technology have helped shape the world in which we live.

Key Questions:
1) What is the design brief asking me to make? 2) How can I research ideas to meet the design brief? 3) How can I use market research to find the most popular products? 4) How can I use my market research to develop a range of designs? 5) How can I develop a final design? 6) How will I make it? 7) How can I evaluate my product?

Objectives covered in this unit:	
Science	LKS2: • I can use my knowledge of a series circuit to constrict a simple circuit which makes a bulb light up. UKS2: • I can use my knowledge of electrical components and my knowledge of series circuits to make a circuit for a burglar alarm mat.
Geography	n/a
History	n/a
Art	Drawing and designing products using pencil to the correct scale and proportion based on research ideas.

DT	I can work to a design brief I can research designs I can carry out market research to find out the most popular design based on my research I can create my own designs and develop a final design based on the market research. I can draw the most popular design based on market research I can make my design using the most appropriate material and techniques I can resolve problems or improve my product to make it the best I can I can evaluate my design

DT
Key Knowledge

What is the design brief asking me to make?	To understand what the design brief is asking me to make. Interpret information and use this information to begin to develop ideas.
How can I research ideas according to the design brief?	To research ideas online with the design brief and work independently and collaboratively to research ideas with others. To make sure that the products researched are meeting the requirements of the brief given. Use the research to begin to develop possible designs in relation to the design brief.
How can I use market research to find the most popular design?	To use market research to find out which design is the most popular based on my designs. To think of important and relevant questions to ask and record these results. LKS2 record results as a tally. UKS2 record results as a tally and graph.
How can I use my research ideas to develop and draw a range of designs?	To 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.
Can you develop a final design?	LKS2- To develop a final detailed design based on the market research with materials labelled UKS2- Detailed final design with materials labelled and dimensions included
How will I make it?	To 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. Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
How can you evaluate how successful your product is?	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.

DT Vocabulary

Vocabulary				
Tier 1 (general)	Make Research	Evaluate Practical	Develop Draw	Build construct
Tier 2	Brief Product Mechanism Tools Procedures	Design Model Equipment Label	Make Prototype Plan Criteria	function Design Materials Improve
Tier 3	Technology Packaging	Data Engineer	Information Designer	Test Modify