

What? (Key Knowledge)

Prior Learning

- 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.

Designing

- 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.

Making

- 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 according to their functional properties and aesthetic qualities.

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

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.

Possible Experiences

Design, make and evaluate a nightlight for a toddler.



Focus on design, colour, appeal.

What is interesting to a toddler?



What is the purpose of a nightlight?

What? (Key Vocabulary)

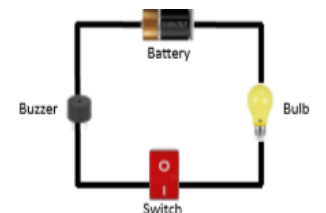
Spelling

Definition/ Sentence

Circuit	path through which electricity passes.
Conductor	a material which allows an electric current to pass through it
Insulator	a material which does not easily allow electric current to pass through it.
Output	components that produce an outcome e.g. <i>bulbs and buzzers.</i>
Input	components that are used to control an electrical circuit e.g. <i>switches.</i>
System	a set of related parts or components that together achieve a desired outcome.

Diagrams and Symbols

A **series circuit** (One pathway around the circuit). Electricity can flow through the components in a complete electrical circuit.



Handmade Switches.

