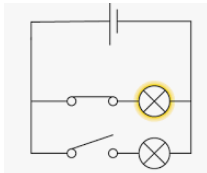
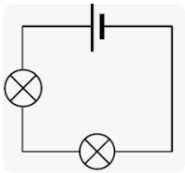


What should I already know?

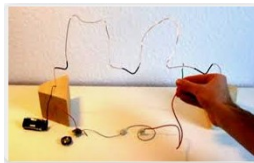
- How to join appropriately for different materials and situations.
- How to design a product for others and follow a design criteria
- How to generate my own ideas and plan what to do next.
- How to explain what I want to do and describe how I will do it.
- How to describe my design using pictures, words and diagrams.
- How to use finishing techniques to make my product look good.

What new skills and knowledge will I acquire?

- To construct a series and parallel circuit



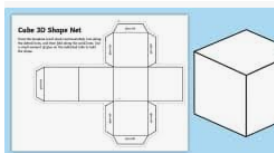
Incorporate an electrical circuit with a bulb or buzzer and a switch into a model.



To cut slots and internal shapes.



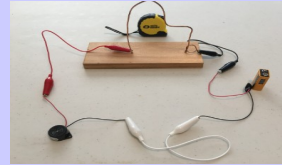
To create and strengthen Nets.



Design and Technology Knowledge Organiser

Topic: Gadgets and Gizmos

Strand: Constructing Electrical Systems



What will I be able to do by the end of the unit?

Design

- Use research for design ideas.
- Begin to create my own design criteria.
- Make and explain design decisions, considering availability of resources.
- Have at least one idea about how to create the product and suggest improvements for my design.
- Produce a plan, explain it to others and say how realistic it is.
- Describe my design using labelled drawings from different views showing specific features.

Make

- Select appropriate materials to make my product.
- Work through my plan in order.
- Explore different ways of creating circuits
- Create a stable base
- Select suitable tools and equipment, explain my choices in relation to required techniques and use accurately.
- Measure, mark out, cut and shape materials and components with some accuracy.
- Assemble, join and combine materials and components with some accuracy.
- Apply a range of finishing techniques with some accuracy.
- Select appropriate materials that are fit for purpose and explain my choices.

Evaluate

- Use the design criteria to evaluate products and begin to explain how I could improve the original design.
- Evaluate existing products, considering how well they've been made, the materials, whether they work, how they have been made and their fitness for purpose.

Vocabulary

components	Parts of an electrical circuit e.g. buzzer, wires, battery
construct	To build or to put together
conduct	To allow electricity to pass through
insulate	To cover, line, or surround with a material that reduces or stops the movement of heat or electricity,
reinforce	To strengthen or support a structure with additional material.
stability	Stability is often used to describe buildings or structures that won't collapse or fall down.

Existing products

