

# D&T – Electrical Systems: Simple Circuits and Switches

## Year 4: Spring 2

### Key Vocabulary

**Fault** - a break or other defect in an electric circuit.

**Connection** - the placing of parts of an electric circuit in contact so that a current may flow.

**Toggle switch** - a switch operated when a lever is pressed.

**Reed switch** - a switch operated by a magnet.

**Push-to-make switch** - a switch turned on by pressing it.

**Push-to-break switch** - a switch turned off by pressing it.

**System** – a set of related parts or components that together achieve a desired outcome.

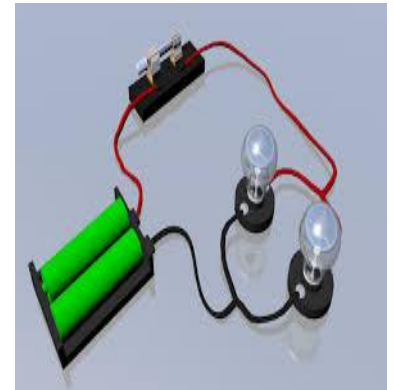
**Prototype** - a model made to test whether a design will work.

**Output devices** – components that produce an outcome e.g. bulb

**Input devices** – components that are used to control an electrical circuit e.g. switches.

### Key Questions

- What are the key features and components of my product?
- How does the switch work?
- What type of switch will be most effective?
- How is the product suited to its intended user and purpose?
- If it is controlled by a computer, how does that improve the way the product works?
- How might different types of switches be useful in different types of products?



### Key Skills

- Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, and aimed at particular individuals or groups.
- Generate, develop, model and communicate realistic ideas through discussion, annotated sketches, cross-sectional and exploded diagrams.
- Investigate and analyse a range of existing battery-powered products.
- Evaluate their ideas and products against their own design criteria and identify the strengths/ areas for improvement in their work.
- Understand and use electrical systems in their products.
- Know and use technical vocabulary relevant to the project.

### Concepts

**Technical knowledge** - an understanding of modern technology, its working and advances. Your detailed understanding of anything that can be applied or reasoned with in any shape or form for any issues or applications is technical knowledge.

**Making** - The making of something is the act or process of producing or creating it.

### Website Links

<https://www.bbc.co.uk/bitesize/topics/zq99q6f/articles/zt8vg82>

<http://www.primaryhomeworkhelp.co.uk/revision/Science/electricity.htm>