

Knowledge Organiser

Year: 4 DT – Electrical Systems: Simple Circuits and Switches/Monitoring and Control

Term: Autumn 1

Design, make and evaluate a safety light for a child walking home from school in winter.

Vocabulary	Meaning
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 devices	Components that produce an outcome (e.g. buzzers and bulbs).
Input devices	Components that are used to control an electrical circuit (e.g. switches).
Push switch	A switch turned on by pressing it.
Reed switch	A switch operated by a magnet.
Toggle switch	A switch operated when a lever is pressed.
System	A set of related parts or components or components that together, achieve the outcome you want.
Microcontroller	A device that can be programmed to control how an electrical product operates.
Program	A sequence of instructions used to control electrical components.

Key Knowledge:



Push-to-make switch
When you push, the electricity flows through the circuit, but when you release it the circuit is broken and the switch is off.

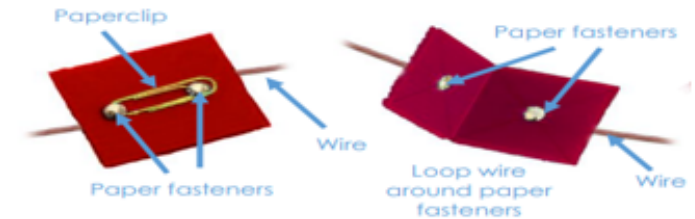


Reed switch
Activated by a magnet – this closes the contacts and completes the circuit.



Toggle switch
Simple on/off switch

Handmade switches



Microbit - A pocket-sized computer. It contains a microcontroller that can be programmed in different ways.