

# St Luke's Knowledge Organiser



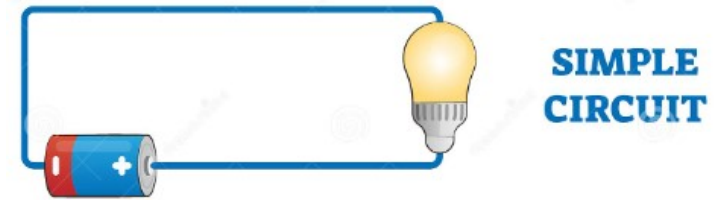
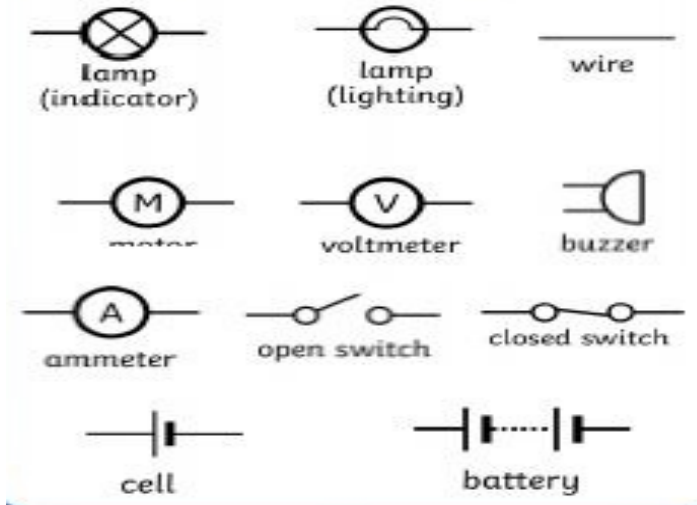
## Year 6 - Electricity - Physics

### What I should already know

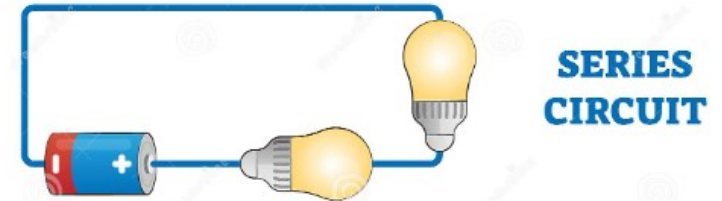
- Sticky knowledge from Year 4 electricity.
- Knowledge of properties and materials.

### Working Scientifically

- systematically identify the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.



**SIMPLE  
CIRCUIT**



**SERIES  
CIRCUIT**

### Sticky Knowledge

- ◆ The **brightness** of a lamp or the volume of a buzzer changes with the number and **voltage** of cells used in the
- ◆ More **batteries** or a **higher voltage** create more power to flow through the circuit.
- ◆ Shortening the wires means the **electrons** have less resistance to flow through.
- ◆ Fewer **batteries** or a **lower voltage** give less power to the circuit.
- ◆ More **buzzers** or **bulbs** mean the power is shared by more components.
- ◆ Lengthening the wires means the **electrons** have to travel through more **resistance**.
- ◆ Know and use the components and symbols of a circuit.

A **series circuit** is a circuit that has only one route for the current to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If just one part of this series circuit breaks, the circuit is broken and the flow of current stops.

### Vocabulary

amps	How electric current is measured.
battery/ cell	Stores <b>energy</b> as a chemical until it is needed. A <b>cell</b> is a single unit, a <b>battery</b> is a collection of cells.
circuit	A <b>complete</b> and closed path around which a circulating <b>current</b> can flow.
conductor	A <b>material</b> or device which allows <b>heat</b> or <b>electricity</b> to carry through
current	A <b>flow</b> of <b>electrons</b> , measured in <b>amps</b> .
energy	Power from sources such as <b>electricity</b> that makes machines work or provides heat
insulator	Any material that <b>electricity</b> cannot pass through or along
voltage	An <b>electrical force</b> that makes <b>electricity</b> move through a wire, measured in <b>volts (V)</b> . The greater the <b>voltage</b> , the more current will flow.