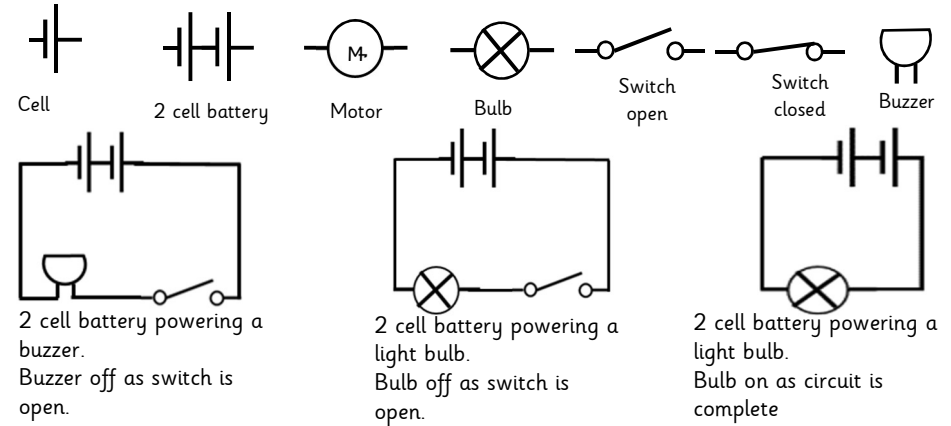


## Year 6 Science - Electricity

### Key Vocabulary

Voltage	The force moving the electric current through wires in a circuit.
Complete circuit	A circuit that is closed and the electricity can flow round
Series circuit	A circuit with only one route for the electricity to flow
Symbols	Used to picture components in a circuit
Resistance	The slowing effect on the movement of electrons around a circuit (caused by components and wires)
Electrons	Parts of an atom that can move – these are what move through a circuit.
Conductors	Materials where electricity passes through
Insulators	Materials where electricity does not pass through
Components	Parts of a circuit
Fault	When something is wrong with a component
Filaments	The resistance wire in a bulb

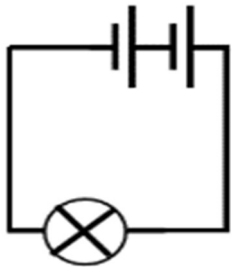
### Component symbols and circuit diagrams



### Brighter or louder?

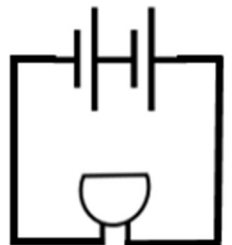
#### How can we make this bulb brighter?

- More batteries = higher voltage = more power around circuit
- Shortening the wires = smaller path = less resistance to flow through



Challenge...

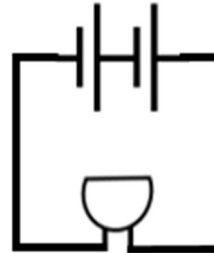
#### How can we make the buzzer louder?



### Dimmer or quieter?

#### What changes to these circuits will make the bulb dimmer, or the buzzer quieter?

- Remove batteries = less voltage = less power to flow through the circuit.
- More buzzers or more bulbs = power shared between more components = greater resistance = less power to each component.
- Longer wires = more distance to travel = greater resistance = less power.

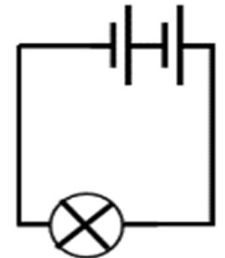


### Series circuits

A series circuit = only one route for flow of electrons to take.

As more components are added, the more the power (voltage) has to be shared.

Any breaks in a circuit (e.g. switch / broken component) prevent the current from flowing around the circuit.



This prevents all components in the circuit from working.

If you have a series circuit containing 200 lights, and one light bulb is broken, then whole set of lights will remain off until the break in the circuit is fixed.

