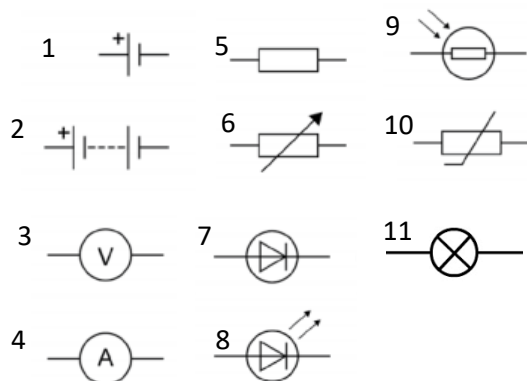


1. Element Symbols

	Key word	Definition
1	Cell	Generates electricity for the circuit.
2	Battery	More than one cell in series.
3	Voltmeter	Used to measure potential difference in volts, connected in parallel.
4	Ammeter	Used to measure current in amps, connected in series.
5	Fixed resistor	A component that slows the current in the circuit by a fixed amount.
6	Variable resistor	A resistor where the resistance in can be changed.
7	Diode	Resistor that has a high resistance in the negative direction around the circuit, but a low resistance in the positive.
8	Light emitting diode (LED)	Resistor that emits light when a current flow through it.
9	Light dependent resistor (LDR)	Resistor that is sensitive to light.
10	Thermistor	Resistor that is sensitive to temperature.
11	Filament bulb	Emits light when a current flows through it.

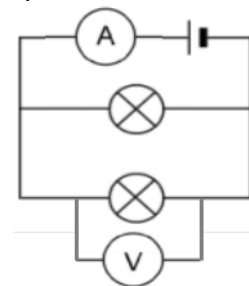


2. Electricity Equations

Equation	Symbol Equation	Symbols and units
Charge = current x time	$Q = It$	Q = Charge (Coulombs – C) I = Current (Amps – A) t = time (seconds – s)
Potential difference = current x resistance	$V = IR$	V = potential difference (Volts – V) I = Current (Amps – A) R = Resistance (Ohms – Ω)
Power = current ² x resistance	$P = I^2R$	P = Power (Watts – W) I = Current (Amps – A) R = Resistance (Ohms – Ω)
Power = current x potential difference	$P = IV$	P = Power (Watts – W) I = Current (Amps – A) V = potential difference (Volts – V)
Energy transferred = charge x potential difference	$E = QV$	E = Energy (Joules – J) Q = Charge (Coulombs – C) V = potential difference (Volts – V)

3. Series and Parallel Circuits

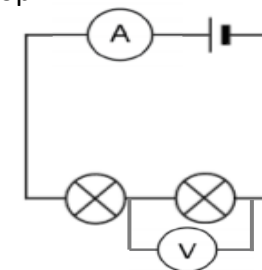
Parallel → components are on different loops



Current splits at the junction and is **shared** across each loop.

Potential difference is the **same** on each loop.

Series → components are all on the same loop



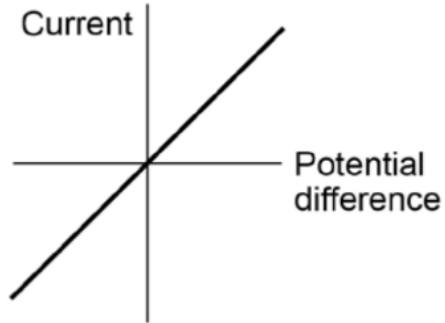
Current is the **same** at all point in the circuit.

Potential difference is **shared** across the components.

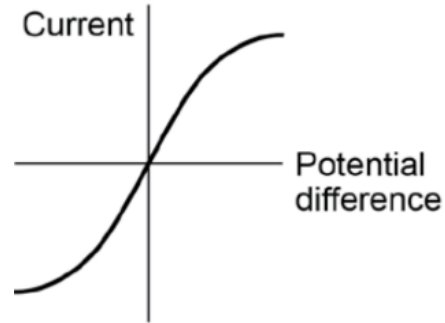
4. I-V Characteristics

Different types of components in a circuit will be affected differently by changes in current and potential difference.

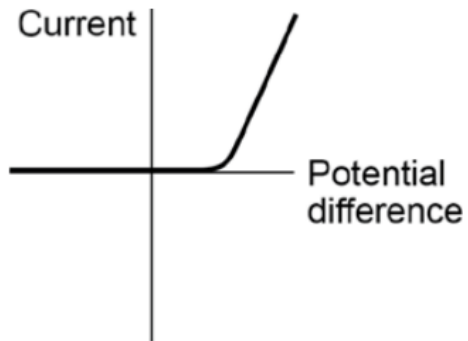
Fixed resistor / Metal wire



Filament bulb



Diode



Thermistor / LDR

