

Current, I	<ul style="list-style-type: none"> •The flow of charge per second •Measured in Amperes, A •The charges that flow in a circuit are free electrons. •Electrons are pushed away from the negative terminal of the power supply and are pulled back towards the positive terminal.
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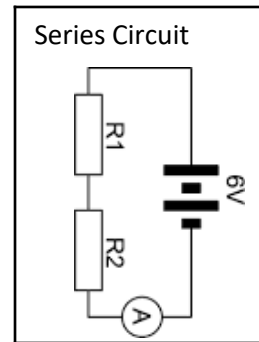
Circuit Symbols <i>(You need to know what each of these components does as well as the symbol)</i>	
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Potential Difference, V	<ul style="list-style-type: none"> •The work done (or energy transferred) per unit of charge that passes through a component •Measured in Volts, V
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Resistance, R	<ul style="list-style-type: none"> •How easy or hard it is for electrons and therefore current to flow in a material. •Measured in Ohms, Ω •Filament lamp: higher temp, higher R •Diode: forward resistance low, reverse resistance high •Thermistor: R decreases as temp increases •LDR: R decreases as light intensity increases
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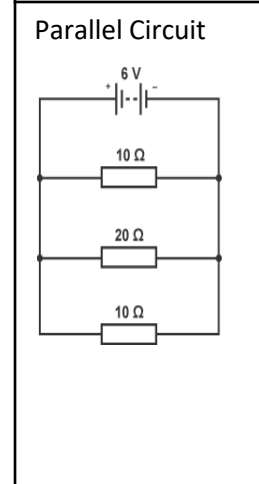
Ohm's Law	<ul style="list-style-type: none"> •The current through a resistor at a constant temperature is directly proportional to the p.d. across it. •An Ohmic conductor gives a I-V graph that has a straight line through the origin.
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I-V Graph / I-V Characteristic	<p>A graph of current against p.d. for a component.</p>
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Series Circuit

- A circuit where there is only one loop and one path for the current to take
- I is the same in each component
- Total p.d. is shared between components
- R is the sum of all the resistances of the components added together $\rightarrow R_{total} = R_1 + R_2$
- Adding more resistors in series increases the total R as there is less I flowing in each resistor and the total p.d. stays the same.



Parallel Circuit

- A circuit where there are two or more loops and therefore multiple paths the current can take.
- Total I is equal to the current in each component
- p.d. across each component is the same
- Less current passes through resistors with bigger R
- The total R or two or more components in parallel is less than the resistor with the smallest R
- As we add more resistors in parallel, total R decreases as total I increases and total p.d. across them is doesn't change

Key Equations To Learn	
Current, I	Current = Charge \div Time $I = Q \div t$
Potential Difference, V	Potential difference = Energy \div Charge $V = E \div t$
Potential Difference, V	Potential difference = Current x Resistance $V = I \times R$