

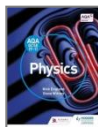
# GCSE Physics: what you need to know

## Electricity

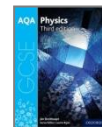
Current, potential difference and resistance	I can do this already	Covered in class	Strength	Weakness	I have revised this	Book references
I can draw the circuit symbols for: a <b>switch</b> (open or closed), <b>cell</b> , <b>battery</b> , <b>diode</b> (and <b>LED</b> ), <b>resistor</b> (fixed and variable), <b>bulb</b> , <b>fuse</b> , <b>voltmeter</b> , <b>ammeter</b> , <b>thermistor</b> and <b>LDR</b> .						
I can describe the difference between <b>series</b> and <b>parallel</b> circuits.						
I can explain what is meant by the term <b>electric current</b> .						
I understand that the <u>size</u> of an electric current is equal to the ' <b>rate of flow of charge</b> '.						
I can recall the <b>equation that links current, charge and time</b> , and give the units of each of these quantities.						
I can describe how electric <u>current</u> varies around <b>series</b> and <b>parallel</b> circuits.						
I understand that a current will only flow in a circuit if there is a source <b>potential difference</b> (such as a power supply, battery or cell).						
I understand that <b>potential difference</b> is another name for 'voltage'.						
I can explain what the <b>potential difference</b> between two points in a circuit tells us.						
I can recall the <b>equation that links potential difference, energy and charge</b> , and give the units of each of these quantities.						
I can describe how <u>potential difference</u> varies around <b>series</b> and <b>parallel</b> circuits.						
I can describe an <b>experiment</b> to investigate the effect of <u>potential difference</u> on the <u>current</u> flowing through a i) filament bulb, ii) resistor and, iii) light-emitting diode (LED). <ul style="list-style-type: none"> <li>My description will include a detailed method and circuit diagrams.</li> <li>I will be able to explain the purpose of each component in the circuit.</li> </ul>						
I can recall the <b>equation that links potential difference, current and resistance</b> , and give the units of each of these quantities.						
I can <u>describe</u> the effect of potential difference on the current flowing through i) a filament bulb, ii) a resistor and, iii) a light-emitting diode (LED) <ul style="list-style-type: none"> <li>in words</li> <li>by sketching labelled graphs.</li> </ul>						
I can use the idea of <b>resistance</b> to <u>explain</u> the effect of potential difference on the current flowing through a i) filament bulb, ii) resistor and, iii) light-emitting diode (LED).						
I can explain how to calculate the <b>total resistance</b> of two or more resistors that are connected in <u>series</u> .						
I understand that the <b>total resistance</b> of two resistors connected in <u>parallel</u> is less than the resistance of the smallest individual resistor.						
I can describe an <b>experiment</b> to investigate the relationship between the length of a wire and its resistance.						
I can describe the relationship between the length of a wire and its resistance.						
I can describe an <b>experiment</b> to investigate the resistance of resistors that are connected in series and in parallel.						
I can describe the <u>variation of resistance with temperature</u> for a NTC-type <b>thermistor</b> <ul style="list-style-type: none"> <li>in words</li> <li>by sketching a labelled graph.</li> </ul>						
I can describe some <b>uses</b> of thermistors.						
I can describe the <u>variation of resistance with light intensity</u> for a <b>LDR</b> (light dependent resistor) <ul style="list-style-type: none"> <li>in words</li> <li>by sketching a labelled graph.</li> </ul>						
I can describe some <b>uses</b> of LDRs.						

**Book  
references:**

H = *Physics* by England and Whitney  
(published by Hodder)



O = *Physics* by Breithaupt  
(published by Oxford)



## Equations you must learn

Equation that links <b>current</b> , <b>charge</b> and <b>time</b>	
Equation that links <b>potential difference</b> , <b>energy</b> and <b>charge</b>	
Equation that links <b>potential difference</b> , <b>current</b> and <b>resistance</b>	