

## Direct current circuits

Specification reference	Checklist questions	
3.5.1.4	Can you carry out calculations for resistors in series and in parallel?	<input type="checkbox"/>
3.5.1.4	Can you explain and use the energy and power equations: $E = Ivt$ and $P = IV = I^2R = \frac{V^2}{R}$ ?	<input type="checkbox"/>
3.5.1.4	Can you explain the relationships between currents, voltages and resistances in series and parallel circuits, including cells in series and identical cells in parallel?	<input type="checkbox"/>
3.5.1.4	Can you explain conservation of charge and conservation of energy in dc circuits?	<input type="checkbox"/>
3.5.1.5	Can you describe how the potential divider is used to supply constant or variable potential difference from a power supply?	<input type="checkbox"/>
3.5.1.5	Can you explain the use of variable resistors, thermistors, and light dependent resistors in the potential divider?	<input type="checkbox"/>
3.5.1.6	Can you use the formulae $\varepsilon = \frac{E}{Q}$ and $\varepsilon = I(R + r)$ ?	<input type="checkbox"/>
3.5.1.6	Can you explain terminal pd and emf?	<input type="checkbox"/>
3.5.1.6	Can you understand and perform calculations for circuits in which the internal resistance of the supply is not negligible?	<input type="checkbox"/>
3.5.1.6	Have you carried out an investigation into the emf and internal resistance of electric cells and batteries by measuring the variation of the terminal pd across the cell with the current in it?	<input type="checkbox"/>