IGCSE Physics (9-1) Specification 2(b)

(b) Mains electricity

Students should:

2.2 understand how the use of insulation, double insulation, earthing, fuses and circuit breakers protects the device or user in a range of domestic appliances

2.3 understand why a current in a resistor results in the electrical transfer of energy and an increase in temperature, and how this can be used in a variety of domestic contexts

2.4 know and use the relationship between power, current and voltage:

power = current × voltage

$P=I\times V$

and apply the relationship to the selection of appropriate fuses

2.5 use the relationship between energy transferred, current, voltage and time:

energy transferred = current × voltage × time

$E=I\times Vxt$

2.6 know the difference between mains electricity being alternating current (a.c.) and direct current (d.c.) being supplied by a cell or battery