

Domestic Uses and Safety

AQA GCSE Physics · Electricity

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Mains electricity in the UK is an **alternating potential difference (a.c.)**. You need to **memorise** these values:

230 V**50 Hz**

Alternating Current (a.c.)

Definition

KEY WORDS **changes direction**

Voltage–time graph



Direct Current (d.c.)

Definition

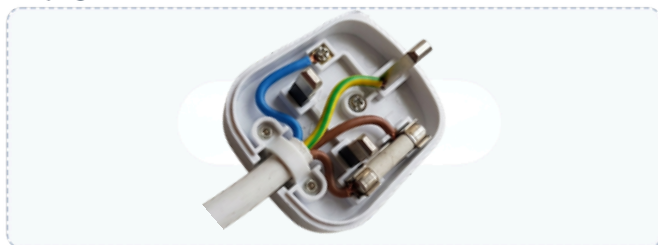
KEY WORDS **one direction**

Voltage–time graph



Mains Electricity — the three-core cable

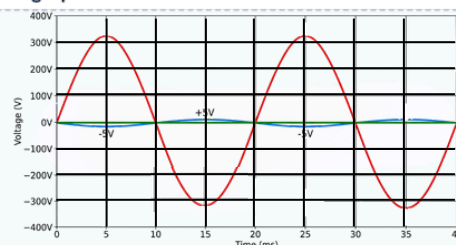
The plug & cables



Label the **live**, **neutral** and **earth** wires and give the colour of each.

Most dangerous wire (must be connected to the fuse): _____

Voltage–time graph of the three wires



Exam-style question [6 marks]

A hairdryer is connected to the 230 V mains supply using a three-pin plug and a three-core cable.

(a) State the frequency of the UK mains supply. Include the unit. [1 mark]

(b) The mains supply provides an alternating potential difference. Describe what is meant by an **alternating potential difference**. [1 mark]

(c) Name the wire in the cable that should be connected to the fuse. [1 mark]

(d) Explain why the live wire is more dangerous than the neutral wire. [3 marks]