

# Definitions and Concepts for WJEC (Wales) Physics GCSE

## Topic 1.4: Domestic Electricity

*Definitions in **bold** are for higher tier only*

*Definitions marked by “\*” are for separate sciences only*

**Alternating Current:** Current flow consisting of charges that continually change direction. These oscillations usually occur at a set frequency.

**Alternating Voltage:** A continually oscillating current flow, which results in the potential difference across two points continually oscillating between a positive and negative value.

**Cost of Electricity:** Calculated by multiplying the cost per unit of electricity by the number of units used.

**Direct Current:** Current flow consisting of charges flowing in a single direction only. Batteries and cells provide direct current.

**Direct Voltage:** A one-directional current flow, which results in a fixed voltage polarity.

**Earth Wire:** The green and yellow striped safety wire connected to metal casings, that prevents an appliance from becoming live.

**Energy Banding:** A system of rating the efficiency of an appliance. The bands range from A-G where A is the most efficient.

**Fuse Rating:** The current value at which the fuse's filament will melt. This should be chosen so that it is above the normal operating current for the appliance, whilst remaining below the maximum current that the appliance can safely handle.

**Fuse:** A safety device consisting of a thin metal filament that melts and cuts off the power supply if there is a surge in current. Fuses are connected to the live wire.

**Kilowatt-Hour:** A unit of energy. It is often used in the context of domestic electricity due to the large energy transfers involved.

**Kilowatt:** A unit of power often used in relation to domestic power due to the large energy transfers that occur. One Kilowatt is equivalent to one thousand Watts.

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**Live Wire:** The brown coloured wire that carries the alternating current from the supply in a mains power supply.

**Miniature Circuit Breaker:** A safety device containing an electromagnet that cuts off the power supply if a surge of current passes through it. Circuit breakers can be reset and are quicker acting than fuses.

**Neutral Wire:** The blue coloured wire that completes the circuit in a mains power supply.

**Power Rating:** The maximum rate of energy transfer that an appliance can safely handle. The power through an appliance should not exceed its power rating.

**Residual Current Circuit Breaker:** A safety device that cuts off a circuit if there is a difference between the current in the live wire of an appliance and the current in the neutral wire. They have a higher sensitivity than miniature circuit breakers.

**Ring Main:** The continuous loop of cable that connects all the sockets in a house to the consumer energy unit.

