

CIE Physics GCSE

Topic 4.5 - Dangers of Electricity

Flashcards

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How is damaged insulation a hazard?



How is damaged insulation a hazard?

Sections of wire can be left exposed, and contact can result in electric shocks or pose a fire hazard.



How does overheating occur?



How does overheating occur?

High currents cause the wires to heat up, melting the insulation and potentially causing a fire.



How do damp conditions pose a hazard?



How do damp conditions pose a hazard?

Water can conduct a current, causing electric shocks etc.



What is a fuse?



What is a fuse?

A thin piece of wire which overheats and melts if the current is too high.



How should the rating of a fuse be chosen?



How should the rating of a fuse be chosen?

It should be slightly higher than the current used by the device in the circuit.

(common examples: 3A, 5A, 13A)



What is a circuit breaker?



What is a circuit breaker?

An automatic electromagnetic switch which breaks the circuit if the current is above a set value.



What are advantages of circuit breakers over fuses?



What are advantages of circuit breakers over fuses?

- They can be reset and used again
- They operate faster



What is an earthing wire?



What is an earthing wire?

A wire which creates a safe route for current to flow down to the ground if a short circuit is produced, preventing electric shocks.



How do earth wires deal with surges?



How do earth wires deal with surges?

They have a very low resistance, so in surges a lot of current flows through them, blowing the fuse and disconnecting the circuit.

