

CIE Physics GCSE

Topic 4.5 - Dangers of Electricity

Flashcards

How is damaged insulation a hazard?

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

How does overheating occur?

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

How do damp conditions pose a hazard?

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Water can conduct a current, causing electric shocks etc.

What is a fuse?

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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?

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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.