

Fuses

Electric Circuits – Year 7

Week commencing 26th March 2012

Title: Fuses

Objectives

- I must be able to explain what a fuse is and why it is used
- I should be able to demonstrate how a fuse works

Starter

You are in a room that has 3 switches and a closed door. The switches control 3 light bulbs on the other side of the door. Once you open the door, you may never touch the switches again.

How can you definitively tell which switch is connected to each of the light bulbs?

Last week we learnt....

- That current is
- That in a parallel circuit, current and in a series circuit, current
- That a variable resistor can be used to

Today, we will learn

- What a fuse is and why it is important

Fuses

1. A fault in an appliance can cause the current to be too great and can lead to the wire overheating and possibly causing a fire.
2. A fuse is designed to melt if the current through a circuit is too high, thereby breaking the circuit
3. The fuse should be just higher than the normal working current

Fuses

A **1** in an appliance can cause the current to be too great and can lead to the wire **2** and possibly causing a **3**.
A **4** is designed to **5** if the current through a circuit is **6**, thereby **7** the circuit.
The fuse should be **8** than the normal working current

Reset

Show answers

Drag and Drop the following labels :

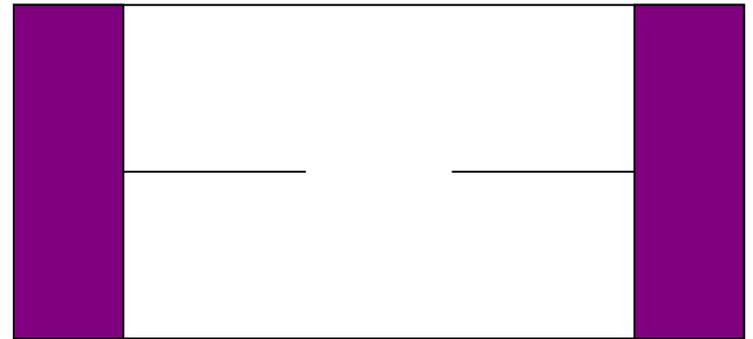
overheating

Fuse symbol



Example

A 3A fuse will melt when the current is greater than 3A.



When a fuse has blown, the wire inside it has melted.

Homework

Worksheet (Cat 7, Unit J pp.98-99)

In for Thursday (7B2) or Friday (7A1)

Turn to page J5B

A practical to investigate how a fuse protects a circuit

SAFETY: Goggles must be worn and be careful of splinters

Plenary: what did we conclude?

- 1) A circuit of what current would be suitable for your fuse? Discuss with your partner.

MBA Question: In a hair dryer, the heater and the fan are usually connected in a series circuit. Suggest why this is a useful safety measure?

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