

Physics Revision – 17 May 2011

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How a transformer works

A transformer allows us to change the electrical _____. It only works for _____. This is because...

When an alternating current passes through the turns of the _____, it creates a _____ . This is transferred to the _____ coil via the _____, which makes the transformer much more efficient. Finally, the _____ in the secondary coil induces a _____ .

Transformer Questions

1. Primary coil: 500 turns, Secondary Coil: 2500 turns. Primary voltage 3 V. Secondary V?
2. Primary coil: 4000 turns, Secondary Coil: 1500 turns. Secondary voltage 85V. Primary V?
3. Primary coil: 20000 turns. Primary voltage 230 V. Secondary voltage 6 V? Secondary turns?
4. Secondary = 54000 turns. Primary voltage 440 000 V, Secondary = 200 000 V. Primary turns?

Draw the circuit symbols for a step-up and step-down transformer below

Lifecycle of a star

_____ → protostar → _____ → _____ → white dwarf → _____
→ _____ → _____
→ _____

Describe how a star creates heat and light at the various stages of its life.

Describe the forces on a star up until the end of the main stage.

Where does hydrogen (1) in our bodies (like in water H_2O) come from?

Where do elements like oxygen (16), carbon (12), nitrogen (14) and calcium (40) in our bodies come from?

Where do elements like iron (56), zinc (65) and iodine (127) come from?