

WJEC England Physics GCSE

Specified Practical (Higher)

Transformers



SP8.3 Investigation of the output of an iron-cored transformer

Equipment

- C-cores with 20, 40, 60, 80 and 100 turns
- A.C. power supply
- 2x A.C. voltmeters
- Connecting wires
- Crocodile clips

Diagram

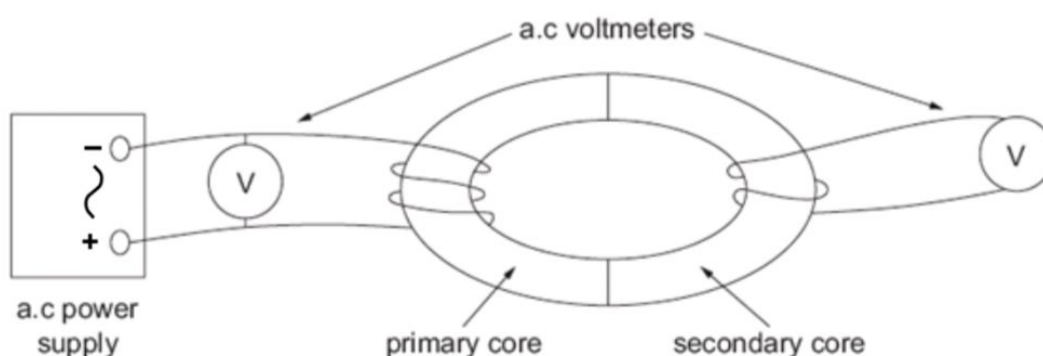


Image: Eduqas

Method

1. Set up the circuit as shown in the diagram, with 100 turns on the primary coil and 20 turns on the secondary coil.
2. Turn on the power supply and record the voltages from the voltmeters.
3. Turn off the power supply and increase the number of turns on the secondary coil to 40.
4. Turn on the power supply and record the voltages.
5. Repeat, adding 20 turns to the secondary coil each time until there are 100 turns on the secondary coil.
6. Plot a graph of the number of turns on the secondary coil against the secondary voltage.

Safety Precautions

- Ensure the power supply is always off when making changes to the circuit so as to avoid the risk of electric shock.

