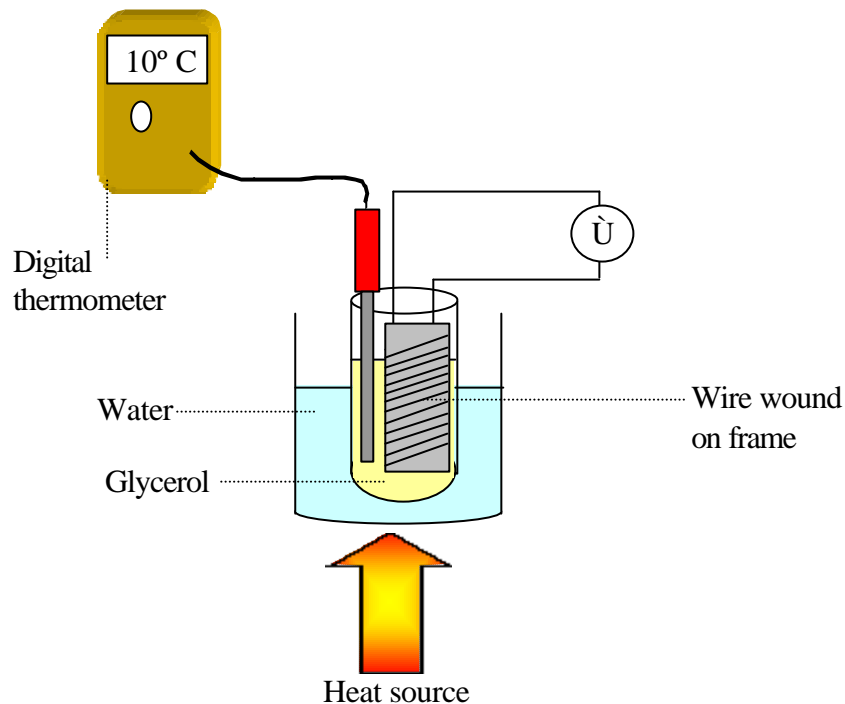


TO INVESTIGATE THE VARIATION OF THE RESISTANCE OF A METALLIC CONDUCTOR WITH TEMPERATURE

Apparatus

Coil of wire (see note), glycerol, beaker, heat source, thermometer, ohmmeter, boiling tube.



Procedure

1. Place the coil of wire in the boiling tube with the glycerol and place it in a beaker of water.
2. Arrange the beaker over the heat source.
3. Connect the ohmmeter to the coil of wire.
4. Use the thermometer to note the temperature of the glycerol, which is also the temperature of the coil.
5. Record the resistance of the coil of wire using the ohmmeter.
6. Heat the beaker.
7. For each 10 °C rise in temperature record the resistance and temperature using the ohmmeter and the thermometer.
8. Plot a graph of resistance against temperature.

Results

| | | | | | | | | | |
|-------------------------|--|--|--|--|--|--|--|--|--|
| R/Ω | | | | | | | | | |
| $\alpha/^\circ\text{C}$ | | | | | | | | | |

Notes

The coil is commercially available. It is called the temperature co-efficient of resistance apparatus with temperature apparatus.