Nat

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National 5 Assignment  
Thermistors: Experiment Guide Sheet A

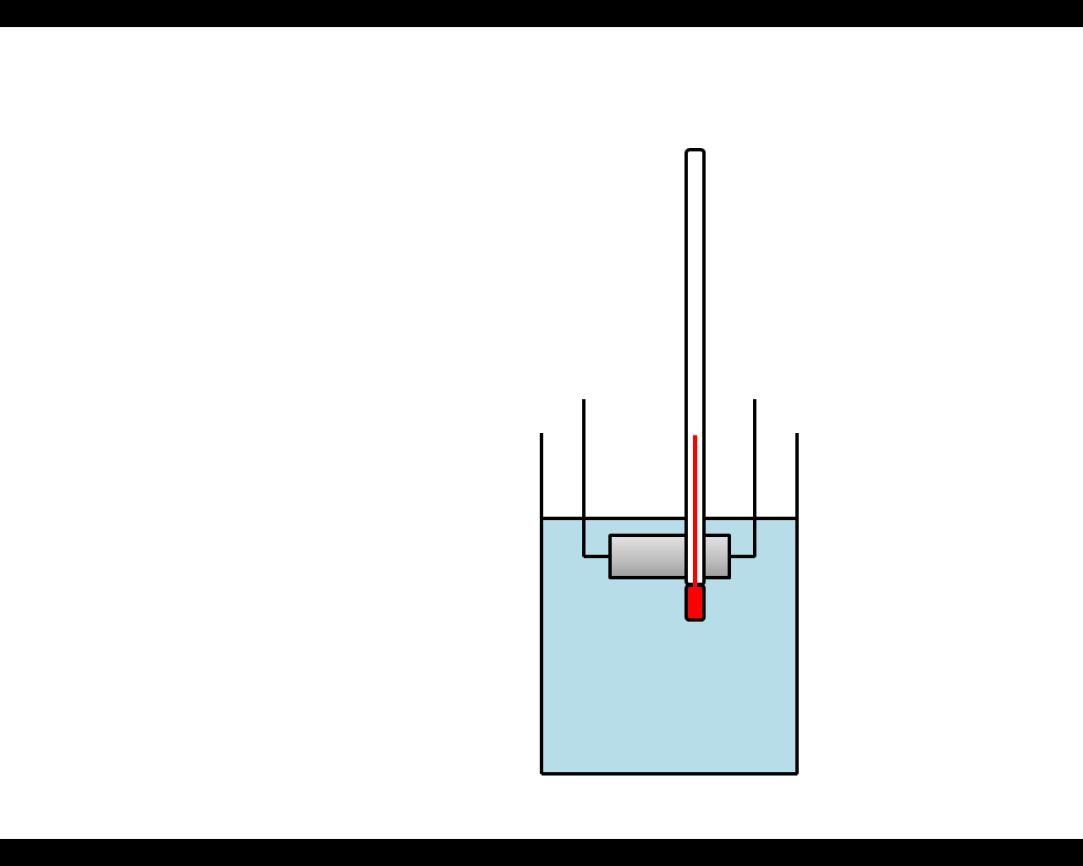
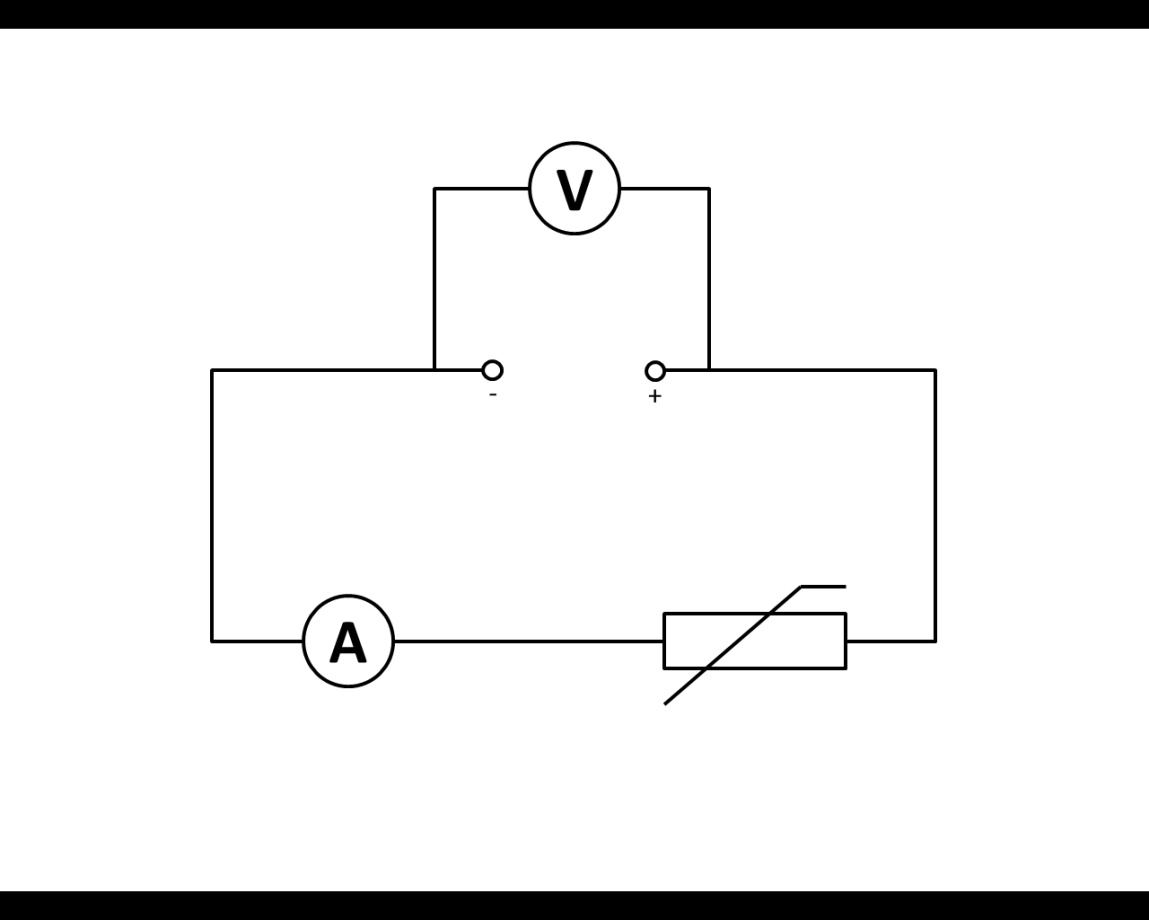
A close up of a toy

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**Investigating current in the circuit while changing temperatures.**

**Instructions:**

Set up a circuit according to the circuit diagram below using a multimeter set up as an ammeter in the milliamp range. Use a voltmeter set to the 20V range (DC V 20) to monitor the supply voltage which should remain constant throughout the experiment.



Thermistor (Connected in circuit shown)

Thermometer

Beaker

Water

(initially hot)

Using a clamp stand, position the thermistor so it is fully imersed in the hot water from a boiled kettle. Position a thermometer in the water so the bulb of the thermometer is close to the thermistor.

Leave the experiment for a few minutes to allow the temperature to settle.

Record the value of the supply voltage (the reading on the voltmeter). You may require this for your analysis later and it should remain constant throughout your experiment.

As the experiment cools, record values of current from the ammeter at various temperatures.

**Risk Assessment**

* Take care to ensure that, if the beaker of water fell, it would not spill water onto any electrical wires or devices connected to mains electricity.
* The water will initially be very hot and could therefor burn skin. Do not handle the beaker until it has cooled to a safe temperature.
* **Mrsphysics takes no responsibility for any health and safety. It is the responsibility of the teacher and student to risk assess any practical activity they complete!**
* **Sept 2023**