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National 5 Assignment  
Ohm’s Law – non Ohmic conductor: Guide Sheet B

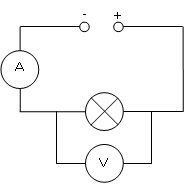
A close up of a toy

Description automatically generated

**Variation of current with voltage (lamp)**

**Equipment:** 12V lamp, variable power supply, ammeter, voltmeter, leads

**Instructions:**



* Set up the circuit as in the diagram.
* Connect the 12V lamp to the power supply and connect an ammeter in series and a voltmeter in parallel across the lamp in the circuit.
* Set the power supply to 1 V and read the current and voltage readings from the ammeter and voltmeter respectively.
* Record the current through, and voltage across the lamp in your table.
* Increase the voltage of the power supply, taking current and voltage readings for each power supply setting.

**Risk Assessment**

* Check all the wires and ensure that the wires are not frayed
* The lamp could get hot, so avoid contact with this.
* Switch off the equipment when it is not in use.
* Ensure the ammeter and voltmeter are on the correct settings, check with your teacher before switching on your circuit.
* Allow the lamp to cool before putting it away.