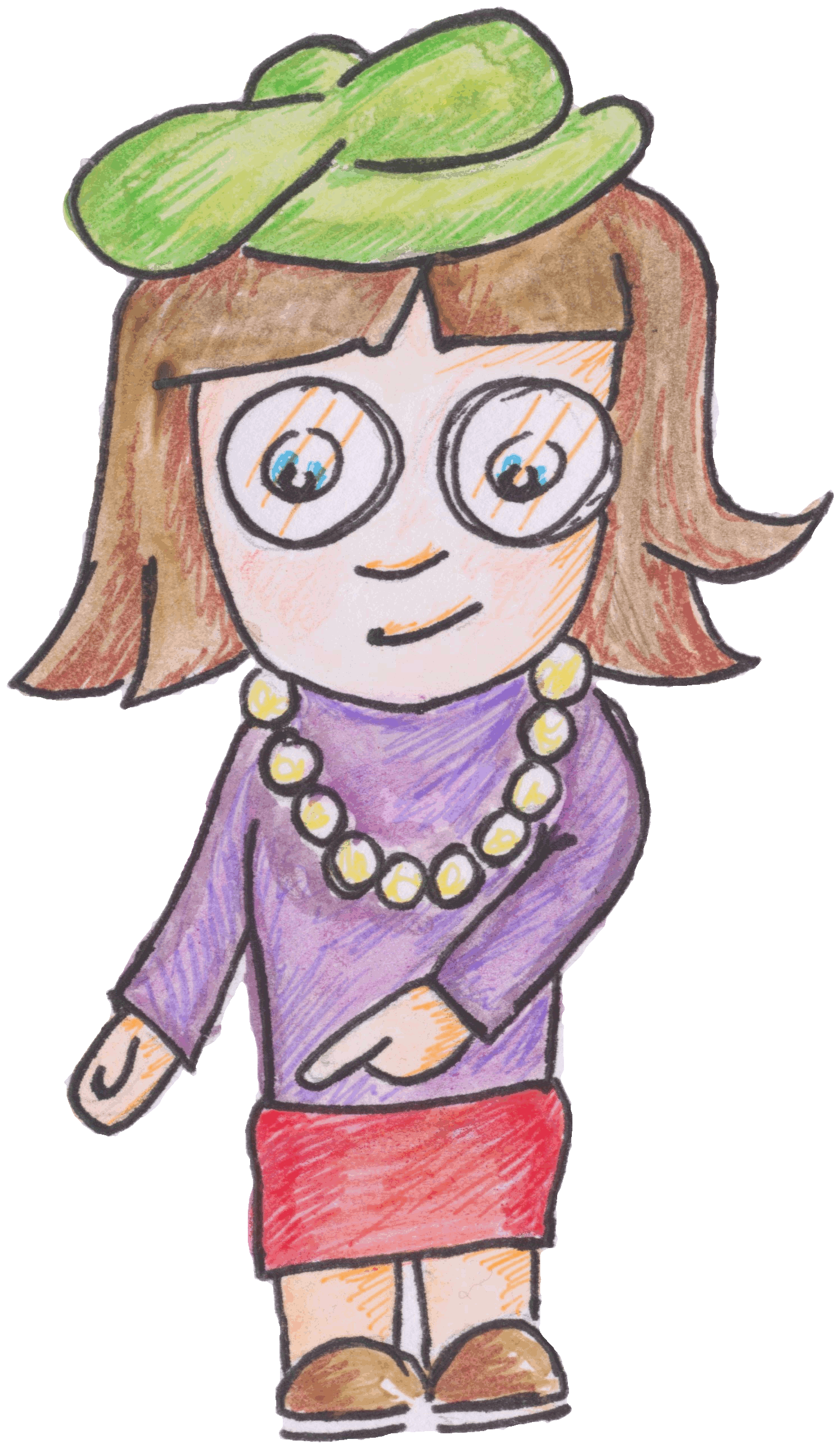
National 5 Assignment

LDR and lamp voltage Guide Sheet: B

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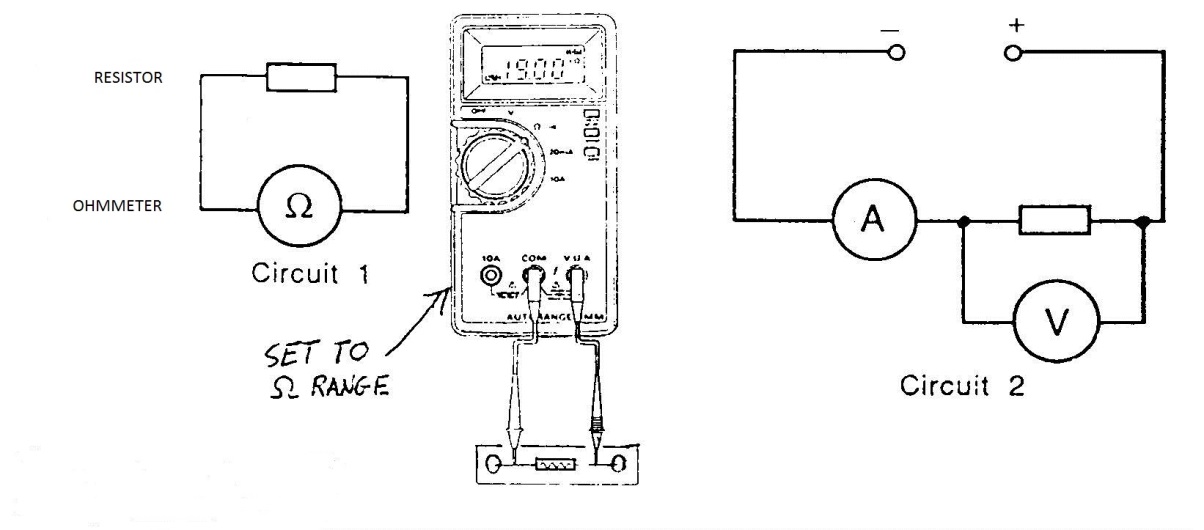
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**Investigating LDR and voltage across the light source**

**Equipment:**

LDR, multi-meter (to use as an ohmmeter), ammeter, voltmeter, 12 V filament lamp in holder , power supply, leads/wires, black card, scissors, Sellotape.



**Instructions**:

* Make a light box by rolling black card into a tube and seal this with Sellotape.
* Set up a 12 V lamp on the bench to act as a light source. Connect a voltmeter across the lamp and ammeter in series.
* Connect the multimeter to the LDR and adjust it to a suitable resistance range.
* Place the LDR and ohmmeter at one end of the black tube and the lamp and power supply at the other. Ensure they are all aligned.
* Place the lamp into the tube and set the lamp onto 1V on the power supply
* Record the voltage across the lamp and the resistance of the LDR.
* Change the power supply voltage without changing the distance between the lamp and LDR and record the new resistance of the LDR and voltage across the lamp.

**Risk Assessment**

* Check all the wires and ensure that the wires are not frayed
* The lamp being used may get hot, do not touch a hot lamp.
* Care should be taken to let it cool before packing away.
* Switch off the equipment when it is not in use.
* Do not make the black tube so tight that air cannot get in to cool the lamp.

**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**