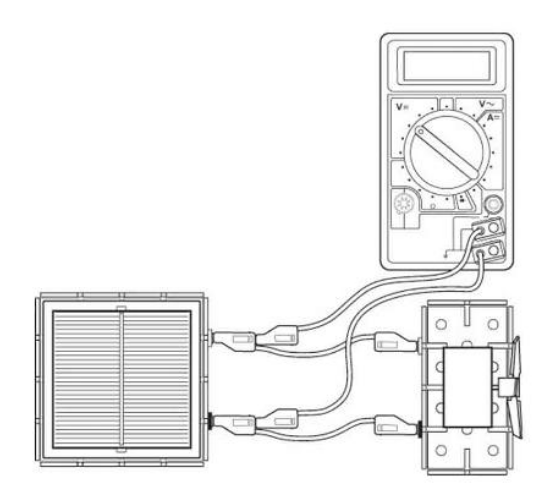
National 5 Assignment  
Solar Cell- distance: Guide Sheet B

Nat

5

A close up of a toy

Description automatically generated

**Investigating Solar Cells (distance).**

**Apparatus**

Solar cell unit, small motor unit (or other load), desk lamp (40 or 60 W tungsten lamp), digital multimeters (ammeter and/or voltmeter), 4 mm leads, metre stick, piece of cardboard, clamp stand, protractor

**Instructions:**

* Make a cardboard tube so that it removed background light. Connect a solar cell to an electric motor.
* Shine a desk lamp through the cardboard tube onto the solar cell so that the motor turns, other loads can be used.
* Connect a voltmeter across the solar cell also connect an ammeter in series in the circuit.
* The voltmeter and/ or ammeter can be used to get an idea about the output of the solar cell or the power can be determined.
* Adjust the distance between the lamp and solar cell moving the lamp closer and further away from the solar cell.
* Maintain the angle between the solar cell and the lamp.

**Risk Assessment**

* Check all electrical wiring.
* Desk lamps with metal shades can get very hot. Take care when moving them.
* Be careful if considering other types of lamp such as halogen lamp and fluorescents because they can emit significant UV.

**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**