

How To Use A Multimeter in Science Experiments



Using a Multimeter

A multimeter can be used to test an electrical circuit. They are commonly used to test current, voltage and resistance.



Current is a measure of electrical flow in amps (A).

Voltage is a measure of electrical force in volts (V).

Resistance is a measure of how well a material conducts electricity in ohms (Ω)

Multimeter Safety

* * * Always have adult supervision when using electrical equipment.

* * * **Never** touch power outlets in your house!
-electricity is dangerous.

* * * Don't forget to turn the multimeter off when you are finished using it and pack it away from the reach of young children.

Multimeter Parts:

Not all multimeters are the same but most have the following general features:

Display

- measurements will be displayed here.

Ports

- for plugging in leads
- Choose the COM port (common) for your black lead.

- Choose the AV Ω port for the red lead.



Selection Knob

- for voltage in volts (V)
- Choose DC voltage (direct current)
- Choose low voltage to test batteries (2V)
- for current in amps (A)
- resistance in ohms (Ω)

Using The Multimeter:

Set up the multimeter:

- 1) Turn the selector knob to the lowest *DC voltage* option (2V).
- 2) Connect the black lead to the *com socket* and the red lead to the *V Ω socket* of the multimeter.
- 3) Turn the multimeter *on*.

Example of Use: To test the voltage in a battery

- 1) Touch the probe of the black lead to the positive terminal of the battery.
- 2) Touch the probe of the red lead to the negative terminal of the battery to complete the circuit.

Read the Measurement:

Look at the display. The reading will be measured in volts.

Pack Up The Multimeter:

Remember to turn off the multimeter when you are finished. Carefully remove plugs from the ports and store all parts safely.

