

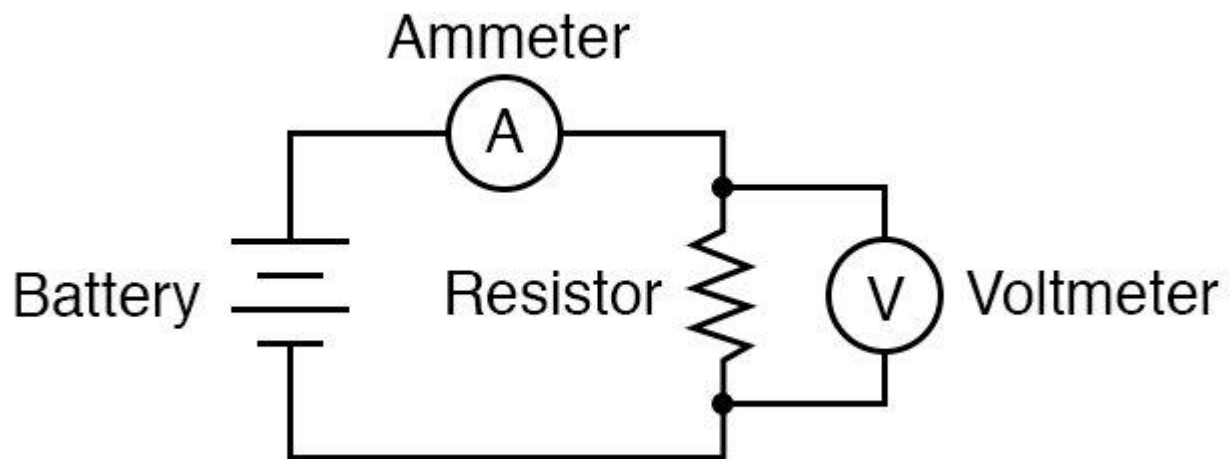
Select a resistor from the assortment, and measure its resistance with your multimeter set to the appropriate resistance range.

Be sure not to hold the resistor terminals when measuring resistance, or else your hand-to-hand body resistance will influence the measurement!

Record this resistance value for future use. Build a one-battery, one-resistor circuit.

A terminal strip is shown in the illustration, but any form of circuit construction is okay.

Set your multimeter to the appropriate voltage range and measure voltage across the resistor as it is being powered by the battery.



Record this voltage value along with the resistance value previously measured.

Set your multimeter to the highest current range available. Break the circuit and connect the ammeter within that break, so it becomes a part of the circuit, in series with the battery and resistor.

Select the best current range: whichever one gives the strongest meter indication without over-ranging the meter.

If your multimeter is autoranging, of course, you need not bother with setting ranges.

Record this current value along with the resistance and voltage values previously recorded.

Taking the measured figures for voltage and resistance, use the Ohm's Law equation to calculate circuit current. Compare this calculated figure with the measured figure for circuit current:

Ohm's Law
(solving for voltage)

$$E = IR$$