

Measuring voltage

Student Name _____

KEY

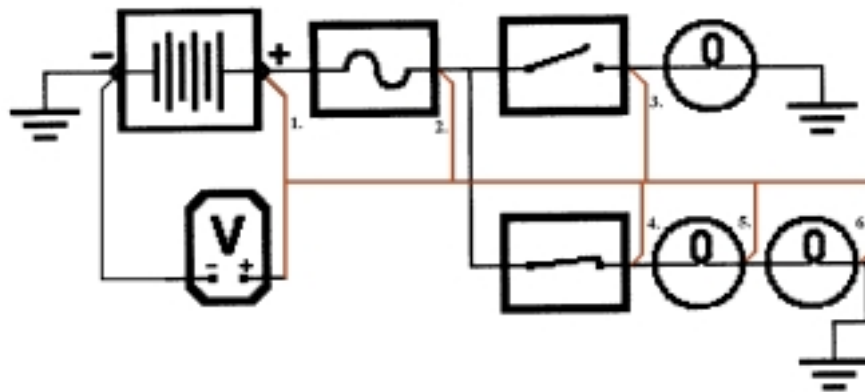
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Measuring voltage: Voltage measurements can be made at any point in the circuit, but it should be remembered that the voltage drops as current passes through the components so that all the voltage is used. The voltage at the start of a circuit will be source or battery voltage (B+); the voltage at the end of the circuit will be 0, zero (B-).

A voltmeter has two leads to connect to the circuit. The -, negative lead is normally connected to ground, the - terminal of the battery, or the most negative side of a component when checking voltage drop. The +, positive lead is connected to the + terminal of the battery or various points along the circuit.

Connect the voltmeter leads to the circuit using a red line for + and a black line for -. Number the lines for each check as indicated. Do not open or close the switches.

1. Measure battery voltage; it should near 12.5 V.
2. Check fuse, the reading should be 12.5 V.
3. Check upper switch, the reading should be 0 V.
4. Check lower switch, the reading should be 12.5 V.
5. Check voltage drop across the light, lower left, the reading should be 6 V.
6. Check voltage drop across the light, lower right, the reading should be 0 V.



Note: These voltages are approximate, and you can allow 0.1 V drop per connection.