

## Vocabulary: Circuits



### Vocabulary

- Ammeter – a device used to measure current.
- Circuit – a path containing mobile charges.
- Current – the flow of electrical charge.
  - In a metal wire, current is the flow of negatively charged particles (electrons).
  - In circuit diagrams and in the Gizmo, current is shown as the flow of *positive charges* from one end of the wire to the other. The reason for this is historical artifact dating back to Benjamin Franklin.
  - Current is measured in *amperes* (A).
  - In equations, the symbol for current is *I*.
- Electron – a negatively charged particle that moves around the nucleus.
  - The mass of an electron is less than one thousandth of the mass of a proton.
- Ohmmeter – a device used to measure resistance.
  - An ohmmeter can only work when the battery is removed from the circuit. (The ohmmeter has its own battery that it uses to pass a small current through the circuit.)
- Ohm's law – an equation that relates voltage (*V*), resistance (*R*), and current (*I*):
 
$$V = IR$$
- Parallel circuit – a circuit that contains two or more branches.
- Resistance – a material's opposition to the flow of charge.
  - Resistance is measured in *ohms* ( $\Omega$ ).
  - In equations, the symbol for resistance is *R*.
- Resistor – a device that slows the flow of current.
- Series circuit – a circuit in which moving charges can only follow a single path.
- Voltage – a measure of the electrostatic potential energy in a circuit.
  - Just as pressure causes water to flow through a pipe, voltage can be thought of as “electrical pressure” that causes electrical charge to flow through a circuit.
  - Voltage is measured in *volts* (V).
  - In equations, the symbol for voltage is *V*.