

Pg. 447 #1-10

- 1. (a)** The two main components of an electrochemical cell are solid metal electrodes and an electrolyte—either a liquid or paste that contains ions with which the electrodes react.
(b) A wet cell produces electricity by forcing the electrons released in the reactions within the cell to travel through an outside path called an electric circuit.
- 2.** Electrons flow from a negative electrode to a positive electrode in a circuit.
- 3. (a)** Potential difference is measured by a voltmeter.
(b) Potential difference is measured in volts.
- 4. (a)** Current is measured by an ammeter.
(b) Current is measured in amperes (sometimes called amps).
- 5.** Potential difference is the difference in electric potential energy between two points that will cause current to flow in a closed circuit, whereas current is the measure of how much charge is flowing past a point in an electrical circuit each second.
- 6.** Current flow in a DC circuit is unidirectional (in only one direction). Current flow in an AC circuit alternates its direction many times every second.
- 7. (a)** The load in an electrical circuit is a device that converts electrical energy to some other form of energy.
(b) Some examples of loads are light bulbs, resistors, motors, buzzers, light-emitting diodes, and so on.
- 8.** Resistance is the opposition to current flow in a circuit.
- 9.** A resistor limits the flow of current in a circuit.
- 10.** Resistance in a wire is affected by material, temperature, length, and cross-sectional area.