Glossary

Conductors - electricity can flow (or conduct) easily

Insulators - electricity is prohibited from flowing easily

Semiconductors - modern materials designed to conduct only under certain conditions

Bohr Model - Electrons configure themselves into shells around the nucleus of an atom

Nucleus - The center of an atom that hold the neutrons and protons of an atom

Valence electrons - electrons in the outer shell

Protons - a positively charged particle that occurs in the nucleus of an atom

Electrons - a negatively charged particle that occurs outside of the nucleus of an atom

Neutrons - a neutrally charged particle that occurs in the nucleus of an atom

Electron current - the net flow of electrons through a material

Equilibrium - a state in which opposing forces or influences are balanced

Thermal Energy - comes from a substance whose molecules and atoms are vibrating faster due to a rise in temperature.

Oscillation - movement back and forth at a regular speed

Electrical resistance - is a measure of a material’s opposition to the passage of electric current.

Voltage (V) - the potential difference between the strength of the electron supply and the electron shortage.

Power Bus - columns on the breadboard that are used to provide voltage for multiple circuits built on the board.

Current (I) - net flow of electrons through a material.

Resistance (R) - a measure of a material’s opposition to the passage of electric current

Energy - the measure of work done

Ohm’s Law - relates voltage, current, and resistance to each other.

Friction - the resistance that one surface or object encounters when moving over another.

Power - work performed per unit time

Microcontroller - a small computer

Microcrontrollers - contain processor cores with memory and are able to be programmed for input/output

Sequence - A set of related events, movements, or things that follow each other in a particular order.

Kirchhoff’s Voltage Law (KVL) - The algebraic sum of voltages around any closed loop in a circuit is zero.

Kirchhoff’s Current Law (KCL) - The current entering a junction point, or node, equals the sum of currents leaving a node.