1. Matter - Anything that occupies space and has mass
2. Mass - A measurement of the amount of matter an object contains
3. Atom - The smallest particle that can contain the chemical properties of an element
4. Element - A substance composed of atoms that cannot be broken down into smaller simpler components
5. Molecule - A particle that contains more than one atom
6. Compound - A molecule containing more than one element
7. Atomic Number - The number of protons in the nucleus of a particular element
8. Mass number (atomic mass) - A measurement of the total number of protons and neutrons in an element
9. Isotopes - Atoms of the same element with different number of neutrons
10. Radioactive Decay - The spontaneous release of material from the nucleus of radioactive isotopes
11. Half-life - The time it takes for one half of an original radioactive parent atom to decay
12. Hydrogen Bond - A weak chemical bond that forms when hydrogen atoms that are covalently bonded to one atom are attracted to another atom on another molecule
13. Polar molecule - A molecule in which one side is more positive and the other side is more negative
14. Capillary action - A property of water that occurs when adhesion of water molecules to a surface is stronger than cohesion between the molecules
15. pH - The number that indicates the relative strength of acids and bases in a substance
16. Chemical Reaction - A reaction that occurs when atoms separate from molecules or recombine with other molecules
17. Law of Conservation of Mass - A law of nature stating that matter cannot be created or destroyed; it can only change form
18. Inorganic Compound - A compound that does not contain the element carbon or contains carbon bound to elements other than hydrogen
19. Organic Compound - A compound that contains carbon-carbon and carbon-hydrogen bonds
20. DNA – The genetic material that contains the code for reproducing the components of the next generation
21. Energy - The ability to do work or transfer heat
22. Joule - the amount of energy used when a 1-watt electrical device is turned on for one second
23. Power - The amount of energy used when a 1-watt electrical device is turned on for one second
24. Electromagnetic Radiation - A form of energy emitted by the Sun that includes, but is not limited to, visible light, ultraviolet light, and infrared energy
25. Potential Energy - Stored energy that has not been released
26. Chemical Energy - Potential energy stored in chemical bonds
27. Kinetic Energy - The energy of motion
28. Temperature - The measure of the average kinetic energy of a substance
29. First Law of Thermodynamics - A physical law which states that energy can neither be created or destroyed but can change from one form to another
30. Second Law of Thermodynamics - The physical law that stating that when energy is transformed, the quality of energy remains the same, but its ability to do work diminishes
31. Energy efficiency - The ratio of the amount of energy expended in the form you want to the total amount of the energy that is introduced into the system
32. Energy Quality - The ease with which an energy source can be used for work
33. Open System - A system in which exchanges of matter occur across system boundaries
34. Closed system - A system in which matter and energy exchanges do not occur across boundaries
35. Input - An addition to a system
36. Output - A loss from a system
37. Systems analysis - Analysis to determine inputs, outputs, and changes in a system under various conditions
38. Steady State - A state in which inputs equal outputs, so that the system is not changing over time
39. Negative feedback Loop - A feedback loop in which a system responds to a change by returning to its original state, or by decreasing the rate at which the change is occurring
40. Positive feedback Loop - A feedback loop in which change in a system is amplified