1.	**acid**	any substance that forms hydrogen ions (H+) in water, pH below 7; sour taste; turns blue litmus red; phenolphthalein remains clear; example: lemon juice
2.	**activation energy**	the amount of energy needed to begin a chemical reaction
3.	**amino acid**	building blocks of proteins; 20 amino acids
4.	**atom**	smallest particle of an element that still retains the same characteristics of the element; made of neutrons, protons and electrons
5.	**base**	any substance that forms hydroxide ions in water (OH-); pH above 7; bitter taste; slippery; turns red litmus blue; phenolphthalein turns pink; example: soap
6.	**buffers**	substances that maintain certain pH levels
7.	**carbohydrate**	macromolecule composed of carbon, hydrogen, and oxygen in a ratio of two hydrogen atoms to one carbon atom to one oxygen atom; starch, glycogen and cellulose
8.	**catalyst**	substance that speeds chemical reactions by lowering the activation energy
9.	**chemical reaction**	process that rearranges atoms to form different substances (reactants to products)
10.	**compound**	composed of atoms of two or more different elements that are chemically combined; can be either covalent or ionic
11.	**covalent bond**	a bond formed between two or more atoms by the sharing of electrons forming a molecule; examples include lipids, proteins and water
12.	**dehydration**	a process that removes -OH from one monomer and H+ from another monomer to create water and a polymer
13.	**element**	a substance that cannot be broken down into simpler chemical substances; composed of the same type of atoms
14.	**enzyme**	protein, biological catalyst, that increases the rate of a chemical reaction; is not changed in reaction; affected by heat and pH; become denatured and will not function properly
15.	**hydrogen bond**	weak chemical bond formed by the attraction between polar molecules
16.	**hydrolysis**	a process that breaks bonds of a polymer to the individual monomers by taking the -OH and H+ from a water molecule and adding them to each monomer
17.	**ion**	charged particle formed when one or more atoms gain or lose electrons
18.	**ionic bond**	attractive force between two ions of opposite charge; example: salt, NaCl; Na+ has a positive charge and Cl- has a negative charge
19.	**isotope**	atoms of the same element that have different number of neutrons; has the same number of protons; can be radioactive
20.	**lipid**	macromolecule composed mostly of carbon and hydrogen atoms with a few oxygen atoms; examples include waxes, fats, oils and steroids; insoluble in water; make up part of cell membrane
21.	**macromolecules**	large molecules, polymers, that are found in organisms (carbohydrates, lipids, proteins, nucleic acids)
22.	**metabolism**	all of the chemical reactions that occur within an organism
23.	**mixture**	combination of substances in which the individual components retain their own properties; example - sugar in water or salt in water
24.	**molecule**	group of atoms held together by covalent bonds; examples: glucose and water
25.	**monomer**	building blocks of polymers; examples include monosaccharides, amino acids, nucleotides
26.	**nucleic acid**	macromolecule that stores cellular information in the form of a code made of nucleotides; DNA and RNA are examples
27.	**nucleotide**	monomers consisting of carbon, hydrogen, oxygen, nitrogen and phosphorus; building blocks of nucleic acids; three parts: nitrogenous base, simple sugar and a phosphate group
28.	**nucleus**	center of an atom; contains the protons and neutrons; positively charged. Atomic mass is the combination of the neutrons and protons, atomic number is the number of protons only
29.	**peptide bond**	covalent bond formed between amino acids; creates proteins
30.	**pH**	measure of how acidic or basic a solution is; pH scale is from 0 to 14. 0 to 7 is acidic; 7 to 14 is basic; 7 is neutral
31.	**polar molecule**	molecule with an unequal distribution of charge, resulting in the molecule having a positive end and a negative end. example - water

32.	**polymer**	large molecule formed when many smaller molecules bond together; can be formed by dehydration
33.	**product**	substance(s) that are created as a result of a chemical reaction
34.	**protein**	macromolecule composed of carbon, hydrogen, oxygen, nitrogen and sometimes sulfur; building blocks are amino acids; enzymes; created at ribosomes
35.	**reactant**	substances needed to start a chemical reaction
36.	**solution**	a mixture in which one or more substances (solute) are distributed evenly in another substance (solvent); water is the universal solvent; example: sweet iced tea
37.	**substrate**	reactants that bind to an enzyme
38.	**van der Waals forces**	attraction between the positive and negative regions of molecules that hold them together (weak attraction)