Vocabulary: Dehydration Synthesis

Vocabulary

- Carbohydrate – an organic molecule made up of carbon, hydrogen, and oxygen.
  - Carbohydrates are the main energy source for most types of cells.
  - Carbohydrates are initially formed by plants through the processes of photosynthesis and *dehydration synthesis*.
  - Foods rich in carbohydrates include grains, fruits, and sugars.
- Chemical formula – a symbolic representation of an element or compound.
  - Chemical formulas use subscripts and parentheses to denote the number of atoms in a molecule of the substance.
  - Examples of chemical formulas include NaCl (table salt), H_2O (water), and $Ca(OH)_2$ (calcium hydroxide).
- Dehydration synthesis – a chemical reaction in which two or more molecules bond by losing one or more water molecules.
  - Plants build starches through dehydration synthesis.
- Disaccharide – a carbohydrate made of two *monosaccharides*.
  - Examples of disaccharides include maltose (two glucose molecules) and sucrose (one glucose molecule and one fructose molecule).
- Glucose – a monosaccharide with the chemical formula $C_6H_{12}O_6$.
  - Glucose is the primary molecule used during cellular respiration reactions.
- Hydrolysis – a chemical reaction in which the interaction of water and a compound result in the breaking up of that compound.
  - Your digestive system breaks down starches through hydrolysis.
- Monosaccharide – the simplest type of carbohydrate.
  - Examples of monosaccharides include glucose and fructose.
- Oligosaccharide – a carbohydrate made of three to ten monosaccharides.
  - Carbohydrates made up of more than ten monosaccharides are *polysaccharides*.
- Valence – the number of chemical bonds an element is capable of forming.
  - The valence of an element is equal to the number of electrons that an atom of that element gains, loses, or shares while forming chemical bonds.