Chemistry of Life Notes-

* Matter is anything that has \_\_\_\_\_\_\_\_ and takes up space (\_\_\_\_\_\_\_\_\_\_\_\_)
* Basic unit of matter is the \_\_\_\_\_\_\_\_\_\_\_.
* Atoms are the \_\_\_\_\_\_\_\_\_\_ unit of matter made of \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_.
* Atoms have very specific properties that make them the [building blocks](http://www.youtube.com/watch?v=bw5TE5o7JtE&feature=related) of everything we know.



* [Electrons-](http://www.youtube.com/watch?v=IdTxGJjA4Jw&feature=related) are small (1/2000 in mass to a proton and neutron) \_\_\_\_\_\_\_\_\_\_ charged particles found around orbiting the nucleus in the electron cloud.
* [Protons-](http://www.youtube.com/watch?v=wzALbzTdnc8&feature=related) are \_\_\_\_\_\_\_\_\_\_ charged subatomic particles that are located in the nucleus
* [Neutrons-](http://www.youtube.com/watch?v=HnmEI94URK8) are \_\_\_\_\_\_\_\_\_ in charge subatomic particles found in the nucleus

Atoms, Elements, and Isotopes

* Atoms of the same type are called \_\_\_\_\_\_\_\_\_\_\_\_\_.
* Elements are placed together in a collection on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Elements on the periodic table are organized by their properties.
* These \_\_\_\_\_\_ are MAJOR elements that make up living things

\_\_\_\_\_\_\_\_\_\_\_ (S), Phosphorus (P), \_\_\_\_\_\_\_\_\_ (O), \_\_\_\_\_\_\_\_\_\_\_\_ (N), Carbon (C), \_\_\_\_\_\_\_\_\_\_\_\_\_ (H)

How do I remember these 6 elements? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Other elements that make up living systems are Calcium (Ca), Sodium (Na), Magnesium (Mg) and Potassium (K)
* All elements are given a \_\_\_\_\_\_\_\_ and a \_\_\_\_\_\_\_\_\_\_. The symbol may appear to not match up with its name but that is because the symbol is from its Latin name.

Practice

|  |  |  |  |
| --- | --- | --- | --- |
| Element and Symbol | # protons | # electrons | # neutrons |
| Carbon |  |  |  |
|  | 1 |  |  |
|  |  |  | 16 |
|  |  | 7 |  |
|  , P |  |  |  |
|  | 16 |  |  |

Elements form Compounds

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are substances formed by chemical combination of \_\_\_\_\_\_ or more elements in definite proportions.
* Compounds are represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that contain the elements symbols and subscripts that determine the number of atoms.

 CO CO2

Elements form Compounds by chemical bonds

* Chemical bonds are interactions between two elements electrons
* The electrons involved in bonding are called valence electrons
* TWO TYPES of BONDS:

 \_\_\_\_\_\_\_\_\_\_\_\_ BONDS

 \_\_\_\_\_\_\_\_\_\_\_\_ BONDS

Ionic Bonds

* Bonds that are formed when 1 or more \_\_\_\_\_\_\_\_\_\_\_ electrons are \_\_\_\_\_\_\_\_\_\_\_\_\_ from one atom to another.
* Ionic bonds form between \_\_\_\_\_\_\_.
* Ions are atoms with a \_\_\_\_\_\_\_\_\_\_ that is \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_.



Covalent Bonds

* Bonds that are formed when two atoms “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” electrons
* When electrons are shared the compound is called a MOLECULE
* Water is a molecule, H2O



Others Forces

Compounds will also \_\_\_\_\_\_\_\_\_\_\_\_ with molecules near them. This type of force is not a bond but can attract one compound to another compound.

