

Basic Chemistry for Biology Students

**KEY**

1. Matter is made up of **ATOMS AND MOLECULES**
2. Atoms are made up of three particles. What are they? **PROTONS, ELECTRONS, NEUTRONS**
3. The term for chemicals made up of only one type of atom is: **ELEMENTS**
4. The element that has 4 protons is **HELIUM**.
5. The 6 most biologically important elements are:  
**1) CARBON                      2) HYDROGEN                      3) OXYGEN**  
**4) NITROGEN                      5) PHOSPHORUS                      6) SULPHUR**
- 6a) Protons have a **POSITIVE** charge.  
b) Electrons have a **NEGATIVE** charge.  
c) Neutrons have a **NEUTRAL** charge.
7. The # of protons plus the # of neutrons = the atomic **MASS**
8. Having the same # of electrons as protons makes an atom electrically what?  
**NEUTRAL (ELECTRICALLY)**
9. A charged atom is called an ----- → **ION**
10. O-C-O and H-N-H and H-O-H are all held together by **COVALENT** bonds.
11. A covalent bond is **stronger** or ~~weaker~~ than an ionic bond? (circle correct ans)
12. The symbol for hydrogen ion is : **H<sup>+</sup>** and for hydroxide ion is : **OH<sup>-</sup>**.
13. The pH scale goes from 1 to **14** Neutral pH is: **7** acidic is **LESS** than 7, and basic is **MORE** than 7.
14. The chemistry of carbon and carbon compounds is called **ORGANIC** chemistry.