NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_#\_\_\_\_\_\_\_\_ Block\_\_\_\_\_\_\_ **MODIFIED VERSION 2018-19**

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| ***Chemistry Review Worksheet- Magnet Bio***  Use the PPt and Book to answer these questions. Remember: you are creating a study guide, so be thorough and neat!  \****Note****- the questions are not necessarily in the order of the book/PPt* | http://www.biologyjunction.com/images/atomicam3.gif |

1. Charged particles that move around an atom's nucleus are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The central core of an atom is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. In an ionic bond, atoms of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge attract each other and are called \_\_\_\_\_\_\_.
4. The part of an atom that has a neutral charge is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . When atoms of the same element have a different # of neutrons, they are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. A radioactive isotope is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Most of the mass of an atom is found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. When two or more atoms share one or more electrons, it is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. A substance that neutralizes small amounts of acids or bases added to a solution is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Sodium chloride (table salt) is an example of a compound formed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
10. The positive charge part of an atom is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
11. The atomic # is always:
12. A compound with one or more atoms that share electrons is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
13. Carbon can form \_\_\_\_\_\_ covalent bonds.
14. The loss of one or more electrons gives the atom a \_\_\_\_\_\_\_\_\_\_\_\_\_ charge.
15. The gaining of one or more electrons gives the atom a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charge.
16. An atom has six electrons, what is it atomic number? \_\_\_\_\_\_\_\_\_\_\_\_  Name?\_\_\_\_\_\_\_\_\_\_\_
17. C, H, O, N are the most common elements in life. How many covalent bonds can H form? \_\_\_\_\_ O? \_\_\_\_\_ N? \_\_\_\_\_ (\*C was answered in #13)

DIRECTIONS: Answer the questions below as completely and thoroughly, using complete sentences. You may use diagrams or pictures to supplement your answers, but a diagram or picture alone without appropriate explanation will lose points.

1. Define acid and base, including which has more hydronium and which has more hydroxide.
2. What is a buffer and why are they necessary in organisms
3. Describe the relationship between the solute, the solvent, and a solution.
4. How does an ionic bond differ from a covalent bond?
5. What is a molecule? What kind of bonding must it have?
6. What are 4 important properties of water?
7. Explain: Polar covalent bond. Draw one example, showing which side is more positive and which side is more negative.
8. What is the pH Scale, and what does its range of values mean? Include the range for an acid, a base and neutral, giving an example of each.
9. Draw 3 water molecules and show the hydrogen bonds between them with a dotted or dashed line.
10. Why can sugar dissolve in water? What must be the case if oil cannot dissolve in water?
11. Compare and contrast regarding water: Cohesion and Adhesion. Include an example of each.
12. In addition to #11, describe 2 more characteristics of water essential to life (w/examples).
13. What is activation energy? Show a graph that demonstrates this.
14. What is the role of enzymes in chemical reactions occurring in living things? Explain how an enzyme catalyst affects a reaction.
15. Show a graph that demonstrates how enzymes lower activation energy.
16. State 3 ways enzymes can become denatured.



