**UNIT 2: CHAPTER 6 – CHEMISTRY IN BIOLOGY DISCUSSION QUESTIONS**

**Section 1: Atoms, Elements, and Compounds**

1. \_\_\_\_\_\_ is anything that has \_\_\_\_\_ and takes up space.
2. \_\_\_\_\_\_\_\_\_\_\_ occurs in every chemical reaction
3. The building blocks of matter are referred to as \_\_\_\_\_\_; and \_\_\_\_\_\_\_\_ are made up of matter.
4. \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_ are located in the nucleus, whereas \_\_\_\_\_\_\_\_\_\_\_ are found orbiting the nucleus.
5. Give the charge of each of the following particles:
   1. Proton
   2. Neutron
   3. Electron
6. What is the overall charge of an atom and why?
7. \_\_\_\_\_\_\_ are made up of only \_\_\_\_\_\_ type of atom and cannot be broken down \_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_.
8. Organizational chart for over 100 elements
9. Elements are pure substances that cannot be broken down \_\_\_\_\_\_ or \_\_\_\_\_\_
10. There are \_\_\_\_\_\_(#) elements that occur naturally.
11. The number of protons are equal to the \_\_\_\_\_\_\_\_ on the periodic table.
12. How can the number of neutrons be found?
13. The horizontal rows are \_\_\_\_\_\_\_ and the vertical rows are \_\_\_\_\_\_\_.
14. How are elements within a group similar?
15. \_\_\_\_\_\_ are elements that have a different number of \_\_\_\_\_\_ in the nucleus.
16. Give off radiation because of an unstable nucleus
17. Used to help calculate age of a once living object such as a bone.
18. Formed when two or more elements combine.
19. Compounds are \_\_\_\_\_\_\_\_ formed from a combination of elements in a \_\_\_\_\_\_\_\_
20. Compounds are \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_ different than the elements they are composed of.
21. Compounds can be broken down by \_\_\_\_\_\_\_\_\_ means but not by \_\_\_\_\_\_\_\_ means.
22. Is the force that holds substance together in a compound.
23. Max # of electrons that can occupy the first energy shell? 2nd energy shell?
24. Which is more stable? A partially filled outer energy shell or a completely filled outer energy shell.
25. Formation of chemical bonds \_\_\_\_\_\_\_ energy and the breaking of the bonds \_\_\_\_\_\_ energy.
26. Formed when electrons are shared between two atoms
27. Formed between two nonmetals?
28. The # of electrons in an atoms outer most shell are referred to as \_\_\_\_\_.
29. Compounds with covalent bonds are \_\_\_\_\_\_.
30. Electrical attraction between two oppositely charged atoms or groups of atoms.
31. What is a negatively or positively charged atom called?
32. Type of bond formed when one atom gives electon(s) to another.
33. Occurs between a metal and nonmetal
34. A positively charged ion
35. A negatively charged ion
36. \_\_\_\_\_\_\_\_ tend to accept electrons and \_\_\_\_\_\_\_\_\_ tend to donate electrons.
37. Most \_\_\_\_\_\_ compounds dissolve in water.
38. Attraction between molecules created when they come close together.
39. Strength of van der Waals forces depends on \_\_\_\_\_ of molecule, \_\_\_\_\_\_\_\_\_, and ability to attract \_\_\_\_\_\_\_.
40. Van der Waals forces are \_\_\_\_\_\_\_\_\_\_ than covalent and ionic bonds.