Name: _____ Period: _____

Unit 1: Basic Chemistry For Biology
Activity 1: Composition of Matter Practice Problems pt. 1

Vocabulary Practice

___1. Matter
___2. Elements
___3. Atomic Number
___4. Atomic Mass

___5. Proton
___6. Neutron
___7. Electron
___8. Atoms
___9. Valence Electrons

a. The amount of electrons in the outer most energy level
b. Pure substances that cannot be broken down chemically into simpler kinds of matter
c. Negatively charged particles in the energy levels of atoms
d. The simplest particle of an element that retains all of the properties of that element
e. Anything that has mass and occupies space
f. The number of protons plus the number of neutrons in an atom of an element.
g. Positively charged particles in the nucleus of an atom.
h. The number of protons in one atom of the element.
i. Particles in the nucleus of an atom that have no charge (they are neutral)

Atomic Number vs. Atomic Mass Practice

____10. The atomic number of an element tells you
a. number of protons plus electrons
b. number of electrons plus neutrons
c. number of neutrons
d. number of protons

____11. The atomic mass of an element tells you
a. number of electrons plus neutrons
b. number of neutrons plus protons
c. number of electrons
d. number of neutrons

12. The atomic number of an element is 6. What element is this on the periodic table? _____
13. The atomic number of an element is 12. How many protons does this element have? _____
14. The atomic mass of an element is 24. How many neutrons does this element have? _____
15. Two atoms both have the same number of protons. What does this mean? _____
16. Look up the element with the atomic number 17. What is its name? _____
17. Look up the element with the atomic number 35. What is its name? _____
18. An element has the 3 protons. What is its name? _____
19. An element has 45 protons. What is its name? _____
20. An element has an atomic mass of 35. It has 17 protons. How many neutrons does it have? _____

21. Look up the element sodium. How many protons? _____ How many electrons? _____ How many neutrons? _____
22. Look up the element Argon. How many protons? _____ How many electrons? _____ How many neutrons? _____

Atoms Practice

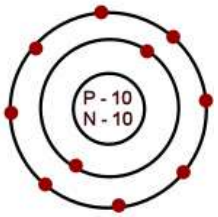
23. An atom is composed of three particles with different charges. Complete the chart identifying the missing information.

Name of particle	Charge	Location
	+	
		Nucleus
Electron		

24. Electrons are high-energy particles with little mass, and are found moving around the nucleus in several different _____ _____.

25. Energy levels can only hold a certain amount of electrons. The first energy level can hold up to ____ electrons. Every other energy level can hold up to _____ electrons.

26. In the diagram, LABEL the following:
1. 1st energy level
2. 2nd energy level
3. Valence electrons



27. Draw Shell Model and the Electron Dot model for Oxygen in the space below.

Oxygen	
Shell Model	**Electron Dot Model**

28. Draw Shell Model and the Electron Dot model for Magnesium in the space below.

Magnesium	
Shell Model	**Electron Dot Model**

29. How many valence electrons does Oxygen have? _____
30. How many valence electrons does Magnesium have? _____