

SI Chemistry-Spring 2008

Background Investigation

On a separate sheet of paper answer the following questions. You may work with your table mates, use your book or use the internet to answer these questions. This packet will be used for reference throughout our study of the periodic table and chemical reactions. Think of it as a set of class notes. We will share our answers later.

1. What is an element?
2. What is the simplest particle that retains the properties of an element?
3. There are seven diatomic elements. What do we mean by diatomic? List the seven diatomic elements.
4. Who was the first person to arrange elements on a table? How did this person arrange the elements?
5. How is the modern periodic table arranged?
6. What is an atomic number? What does it tell us about an element?
7. What is the mass number? What does it tell us? What is an isotope?
8. In chemistry we discuss groups of elements or elements in the same period. What is a group? What is a period?
9. There are a few groups of elements we will often refer to this semester. Where do we find the alkali metals? The alkaline earth metals? The halogens? The noble gases?
10. Why are elements grouped the way they are? What do they have in common with the other elements in their group?
11. What do we mean by the representative elements?
12. Where are the nonmetals? The metalloids? The transition metals? The inner transition metals?
13. Elements often form ions when they react with other elements. What is an ion? How does an ion form? What is a cation? What is an anion? Give an example of each.
14. What type of ion will the alkali metals form? The alkaline earth metals? The halogens? Why do you think they commonly form these ions?
15. There are several trends on the periodic table. Three trends we will study include atomic radius, ionization energy and electronegativity. What is atomic radius? What is ionization energy? What is electronegativity?
16. Describe the trends in atomic radius, ionization energy and electronegativity as you move from the top of a group to the bottom of a group of elements and from left to right within a period of elements.
17. Elements can react with each other to form compounds. What is a compound?
18. There are two main classifications of compounds. What are they?
19. What is the difference between these two types of compounds?
20. What type of compound is water (H_2O)? What is the simplest particle of water that retains the properties of water?
21. What type of compound is sodium chloride (NaCl)? What is the simplest particle that retains the properties of sodium chloride?

Now that you have answered these questions about the periodic table, what questions do you have as a result of your research?