1. Who is credited with creating the periodic table? Why was his periodic table revolutionary? Mendeleev, he left spaces for elements that were not yet found.
2. What does the atomic mass represent? Mass of the atom (number of protons and neutrons)
3. What does the atomic number represent? Number of protons
4. Bromine has an atomic number of 35 and an atomic mass of 80. From this information you know that a bromine atom has 35 protons, 35 electrons, and 45 neutrons.
5. Vertical columns in the periodic table are also called groups or families.
6. Horizontal rows in the periodic table are also called periods.
7. What happens as you go from the left to the right in the periodic table? The atomic number increases.
8. What happens to the number of energy levels or “shells” or electrons as you move down a column on the periodic table? You get more energy levels as you go down a column
9. Where are non-metals located on the periodic table? Right hand side, past the “staircase”
10. Where are the metals? Left hand side
11. Where are the metalloids? Around the “staircase”
12. How are metals different than non-metals? Metals are good conductors, shiny, malleable, ductile, and mostly solids at room temperature (except for Mercury).
13. Which elements had complete outer shells? Noble Gases
14. Which elements had only one valence electron? Alkali Metals
15. The number of outermost electrons (Called valence electrons) determines the chemical properties of the elements.
16. For each of the following elements label each as metal, non-metal, or metalloid.
    1. K- Metal
    2. Si- metalloid
    3. Ba- metal
    4. S- non-metal
17. In what family would each of these elements be classified? How many electrons are in their outer shell? (Valence Electrons)
    1. Se- Chalcogen, 6 valence electrons
    2. Rb- Alkali Metal, 1 valence electrons
    3. Ne- Noble Gas, 8 valence electrons
    4. B- Boron Family, 3 valence electrons
    5. C- Carbon family, 4 valence electrons
    6. Mg- Alkaline Earth Metals, 2 valence electrons
    7. As- Nitrogen Family, 5 valence electrons
    8. S- Chalcogens, 6 valence electrons
18. Which category of element would be the least appropriate choice for making a container that can be dropped without shattering? Explain. Non-metals would be the worst choice, because most non-metals are gasses at room temperature and are also brittle when solids. Metals would make a better choice since they are solid at room temperature.
19. List one element that would have similar properties to the element listed.
    1. Se- O, S, or Te
    2. Rb- Li, Na, K, Cs, or Fr
    3. Ne- He, Ar, Kr Xe, or Rn
    4. B- Al, Ga, In, or Ti
    5. C- Si, Ge, Sn, or Pb
    6. Mg- Be, Ca, Sr, Ba, or Ra
    7. As- N, P, Sb, or Bi
    8. S- O, Se, Te, or Po
20. What are physical properties? Give 3 examples. Physical properties describe characteristics of the substance without destroying the substance. Ex. Color, Size, Melting Point/Boiling Point.
21. What are chemical properties? Give 2 examples. Chemical properties describe how the substance will change into something new. Ex. Flammability, Reactivity.
22. When creating mixtures is mass always conserved? Explain. Yes, You cannot create or destroy the matter so you are measuring the amount of matter that you have.
23. When creating mixtures is volume always conserved? Explain. No, Volume is only conserved when you have 2 of the same substances. Two different substances have different size molecules that will fill in spaces between each other where they fit. It is like pouring sand into a jar of marbles.