Chem Unit Review

1. Who invented the periodic table?

2. A normal Beryllium atom has _____ protons, ____ electrons and _____ neutrons. It also has an overall charge of _____. If you remove two electrons it will now have _____ electrons and _____ protons and is now called a Beryllium _____ with a charge of _____.

3. What element has:
   a. 7 protons:
   b. 14 neutrons:
   c. 10 electrons
   d. Atomic number 26
   e. Atomic mass of 80

4. What are isotopes?

5. What are the 7 diatomic atoms?

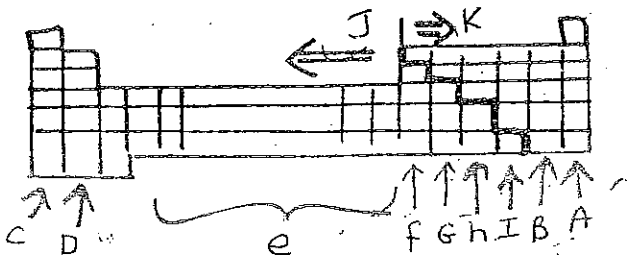
6. What are 3 properties of metals?

7. What are 3 properties of non-metals?

8. What are 3 properties of bases?

9. What are 3 properties of acids?

10. What do the following letters point to on the periodic table? You must also state the charges the ion of the families would have.



a. _____ charge _____

b. _____ charge _____

c. _____ charge _____

d. _____ charge _____

e. _____ charge _____

f. _____ charge _____

g. _____ charge _____

h. _____ charge _____

i. _____ charge _____

j. Everything from here to the left is a _____

k. Everything form here to the right is a _____

11. What is the difference between an ionic and covalent bond with regards to how the bonds are made?

12. What is the difference between a polar and non polar covalent bond?

13. What type of bond (metallic, polar covalent, non-polar covalent, ionic) is found between

a. Mg atoms

b. Ca and F

c. Ag and S

d. C and O

e. I and K

f. Cl and C

g. Sn and O

h. SO_4 and Na

i. B and B

j. Fe and Zn

14. Write the correct formulae for the following

a. Aluminium and chlorine

b. Calcium and nitrate

c. Ammonium and sulfur

d. Copper $_{(II)}$ and chlorine

e. Iron $_{(II)}$ and sulfate

f. Potassium and hydroxide

g. Hydrogen and nitrate

h. Phosphorus and beryllium

i. Magnesium and oxygen

j. Nitrogen and lithium

15. Give the names for the following

a. CaI_2

b. CS_2

c. $MgSO_4$

d. KBr

e. P_2O_5

f. K_2CO_3

g. SO_3

h. ZnO

i. $Fe_2(SO_4)_3$

j. Fe_2O_3

k. Be_3N_2

l. KNO_3

16. Write the formulas for the following:

a. Magnesium sulfate

b. Sodium chloride

c. Nitrogen monoxide

d. Diphosphorous trioxide

e. Copper $_{(I)}$ chlorate

f. Copper $_{(II)}$ sulfide

g. Beryllium oxide

h. Lithium phosphate

i. Iron $_{(II)}$ oxide

j. Carbon tetrachloride

17. How many atoms do each of the compounds have?

a. $FeCl_3$

b. Na_2SO_4

c. $Ca(HCO_3)_2$

d. $3CuOH$

e. $4Al_2O_3$

f. $3Mg_3(PO_4)_2$

g. $2(NH_4)_2SO_4$

18. Balance the following

a. $NaBr + Cl_2 \rightarrow NaCl + Br_2$

b. $ZnO + HCl \rightarrow ZnCl_2 + H_2O$

c. $CuO + NH_3 \rightarrow Cu + H_2O + N_2$

d. $Sn + Cl_2 \rightarrow SnCl_4$

e. $Cu + AgNO_3 \rightarrow Cu(NO_3)_2 + Ag$

f. $Fe + HCl \rightarrow FeCl_2 + H_2$

19. Which of the following are acids or bases?

a. HCl

b. NaOH

c. H_2CO_3

d. $Mg(OH)_2$

e. $Ca(OH)_2$

f. HBr

20. For each of the following predict what would be produced and then balance the equation overall. Also tell if the equation is synthesis, decomposition, single displacement, double displacement or neutralization.

a. $NaOH + HCl \rightarrow$ __+__

b. $Zn + NaCl \rightarrow$ __+__

c. $Mg + N_2 \rightarrow$ ___

d. $Ca + F_2 \rightarrow$ ___

e. $KCl \rightarrow$ __+___

f. $Li_2S + Mg_3N_2 \rightarrow$ __+____

Please READ your notes as there are multiple choice questions which will be asked on the content.