Unit 1a: Matter Name:

AP Chemistry Elements & Compounds

(You may use a Periodic Table of Elements or any other print or digital source.)

Elements

There are some elements we will use as examples in class lectures and labs so often, it is worth your time to memorize their names, symbols, and location on the Periodic Table of Elements.

Write the *chemical name,* most common *ionic charge*, *atomic number,* and *molar mass* for the following NONMETALS.

symbol	*name*	*atomic number*	*ionic charge*	*molar mass*
H				
C				
N				
O				
F				
S				
P				
Cl				

Write the *chemical name,* most common *ionic charge*, *atomic number,* and *molar mass* for the following METALS.

symbol	*name*	*atomic number*	*ionic charge*	*molar mass*
Na				
Mg				
K				
Ca				
Fe				
Cu				
Zn				
Ag				

Compounds and Polyatomic Ions

There are some polyatomic ions we will use as examples in class lectures and labs all the time. Memorize them.

Write the *chemical name* for the following POLYATOMIC IONS:

formula	*name*
$(OH)^{1-}$	
$(CO_3)^{2-}$	
$(NO_3)^{1-}$	
$(O_2)^{2-}$	
$(SO_4)^{2-}$	
$(PO_4)^{3-}$	
$(HCO_3)^{1-}$	
$(C_2H_3O_2)^{1-}$ also written $(CH_3COO)^{1-}$	
$(H_3O)^{1+}$	
$(NH_4)^{1+}$	

There are some compounds we will use as examples in class lectures and labs so often, it is worth your time to memorize their names and formulas.

Write the *chemical formula* and *molar mass* for the following COVALENT COMPOUNDS.

name	*formula*	*molar mass*
water		
carbon dioxide		

Write the *chemical formula* and *molar mass* for the following IONIC COMPOUNDS.

name	*formula*	*molar mass*
sodium chloride		
sodium hydroxide		
sodium bicarbonate		
sodium carbonate		
calcium carbonate		
hydrogen peroxide		
iron (III) oxide		
copper (II) sulfate		
silver nitrate		

Write the *chemical formula* and *molar mass* for the following ACIDS.

name	*formula*	*molar mass*
ethanoic acid (aqueous hydrogen ethanoate)		
hydrochloric acid (aqueous hydrogen chloride)		
sulfuric acid (aqueous hydrogen sulfate)		
nitric acid (aqueous hydrogen nitrate)		

Chemical Reactions and Chemical Equations

We will review chemical equations and their use in Chapter 3. See if you can write a chemical equation for the follow chemical reaction using only the information you have recorded in the sections above.

Hydrochloric acid and sodium hydroxide produce sodium chloride and water.

Now write the *molar mass* for both reactants and both products. (If the mass of the reactants equal the mass of the products, then your equation is balanced. Woo hoo!)

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