**SI WORKSHEET 9**

1. If an element/compound loses electrons then it is \_\_\_\_\_\_\_, which means that it is the \_\_\_\_\_\_. If an element/compound gains electrons then it is \_\_\_\_\_\_\_\_\_, which means that it is the \_\_\_\_\_\_\_\_\_\_\_\_.
2. What is the charge on the manganese atom in Aluminum permanganate?
3. What is the charge on Cl in NaClO4? What is the Charge of Cl in NaClO3? Is there a difference in the oxidation number/charge? If so, what does this difference tell you?
4. Li + H2O 🡪 LiOH + H2. What is the oxidizing agent and what is the reducing agent?
   1. What kind of reaction is this?
   2. What is the percent yield if 1 gram of Hydrogen gas was produced from this reaction If 20 g of each reactant were present?
5. Fe3(PO4)2 + Cu 🡪
   1. What kind of reaction is this?
   2. Does this occur spontaneously (w/o energy input)?
   3. What is the oxidation number on the Phosphorus atom?
   4. How many electrons are transferred to the Iron atom?
6. (NH4)2SO4 + BaCl2 🡪 NH4Cl + BaSO4
   1. What kind of reaction is this?
   2. What is the net ionic equation and states of each compound?
7. Na2SO3 + HNO3 🡪
   1. What kind of reaction is this?
   2. What is the oxidation state on the sulfur atom?
8. NaCl + Fe 🡪 Na + FeCl3. Is this a spontaneous reaction?