1. Work with your group to fill out the following chart about oxidation numbers of common species.

Species	General Rules (list any exceptions)
Pure elements	
Ions/Polyatomic ions	
Neutral compounds	
O	
F, Cl, Br, I	
H	

2. What is the oxidation number of sulfur in the following compounds?
   A) $MgSO_4$ B) Sulfurous acid

3. What is the oxidation number for each atom in ammonium?

4. Which element is undergoing oxidation (if any) in the following reaction? Which is undergoing reduction (if any)?

$$CH_4(g) + 2\ O_2(g) \rightarrow CO_2\ (g) + 2\ H_2O\ (g)$$

5. Determine the reducing agent in the following reaction. Is there an oxidizing agent? If so, identify the species.

$$Zn(s) + 2\ AgNO_3(aq) \rightarrow Zn(NO_3)_2(aq) + 2\ Ag\ (s)$$

6. Work with your group to identify if the reactions below are redox reactions and explain your reasoning. If it is a redox reaction, identify the reducing and oxidizing agent. If it is not a redox reaction, identify what other type of reaction it is.

A) $Mg(s) + 2\ HCl(aq) \rightarrow MgCl_2(aq) + H_2\ (g)$
Type:

Reasoning:

B) $Pb(C_2H_3O_2)_2(aq) + 2\ NaCl\ (aq) \rightarrow PbCl_2(s) + 2\ NaC_2H_3O_2\ (aq)$
Type:

Reasoning:

C) $HCl\ (aq) + LiOH\ (aq) \rightarrow LiCl\ (aq) + H_2O(l)$
Type:

Reasoning: