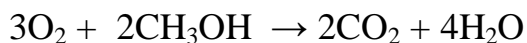
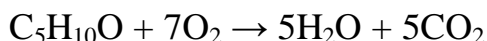
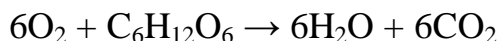
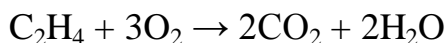
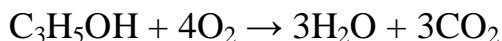
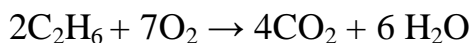


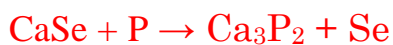
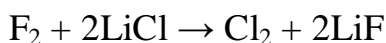
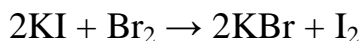
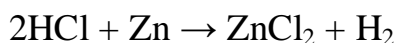
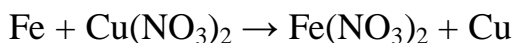
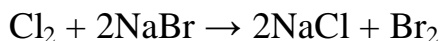
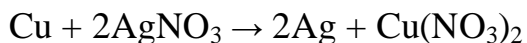
Below you have a series of equations. Your task is to look for patterns or commonalities between all the equations. Look for things that might help you recognize whether a new equation could belong in this sample list of equations. Create a list of these patterns that the group will be presenting to the class as a whole. You need to create a visual for your presentation. It should include the following:

- the group's list of patterns
- at least one sample equation
- a "title" or "name" for your list of equations that describes the pattern

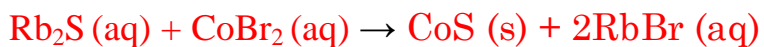
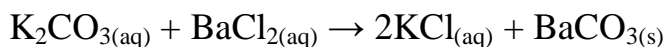
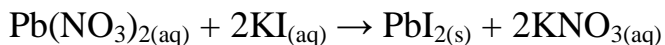
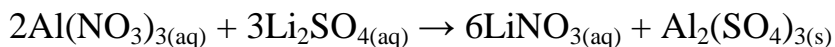
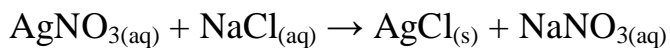
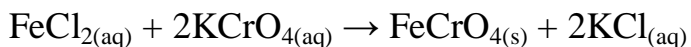
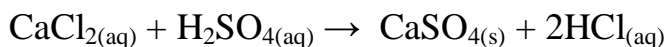
### Sample Set #1



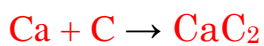
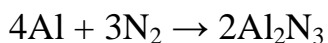
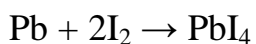
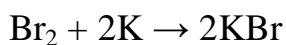
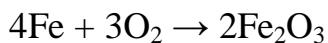
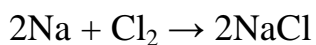
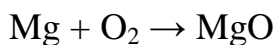
### Sample Set #2



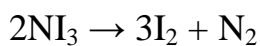
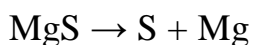
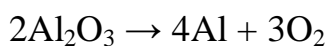
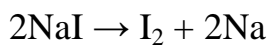
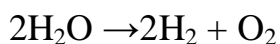
### Sample Set #3



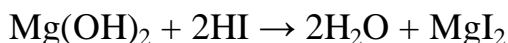
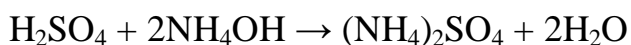
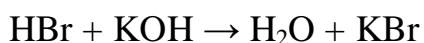
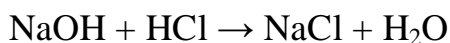
### Sample Set #4



### Sample Set #5



## Sample Set #6



## Day 2 Demo Reactions

### Synthesis:

Option 1: video of synthesis of NaCl

2: steel wool shocked with nine volt battery (weigh steel wool before and after) where did extra mass come from???  $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$

3: burning Mg – same process  $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$

### Decomposition:

Option 1: electrolysis of water

Option 2:  $\text{KClO}_3 \rightarrow \text{KCl} + \text{O}_2$  – heat test tube with  $\text{KClO}_3$ , test for  $\text{O}_2$  with burning splint, the  $\text{KClO}_3$  will melt and bubble ( $\text{O}_2$ ), the product  $\text{KCl}$  is solid (add gummy bear if feel inclined)

Single Replacement:  $\text{CuSO}_4(\text{blue}) + \text{Zn}(\text{silver}) \rightarrow \text{Cu}(\text{red}) + \text{ZnSO}_4(\text{colorless})$ - this can take a few minutes, may want to start earlier and come back to

Double Replacement:  $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl}_{(\text{s})} + \text{NaNO}_3$ , will form white ppt., looks milky, let sit in the test tube so ppt. will fall to the bottom, photosensitive ppt., will turn brown in sunlight