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| **You wouldn’t worry about what others think about you if you realized how seldom they do.**  **-- Eleanor Roosevelt.**  CλeMis+ry: [http://genest.weebly.com](http://genest.weebly.co)  Stop in for help every day at lunch and Tues &Thurs after school! |  | Name\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

Special announcement: We have Test 3 this Friday and Test 4 on April 8. Since this is short notice, here is an enticement: If you do better on Test 4 than on Test 3, I will record the Test 4 grade for both tests. This can only help you, not hurt you.

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| **INSTRUCTIONS !** | **For each of the problems below:** a. Write the balanced chemical equation. b. Identify what is given (with units) and what you want to find (with units). c. Use coefficients from balanced equation to translate sideways d. If you do math, show it. |

1. Hydrogen sulfide gas, which smells like rotten eggs, burns in air to produce sulfur dioxide and water. How many moles of oxygen gas would be needed to completely burn 8 moles of hydrogen sulfide?  
  
Equation: \_\_\_ H2S(g) + \_\_\_ O2 (g) → \_\_\_ SO2(g) + \_\_\_ H2O(g)   
  
**B**efore \_\_\_ \_\_\_ \_\_\_ \_\_\_  
  
**C**hange \_\_\_ \_\_\_ \_\_\_ \_\_\_

**A**fter \_\_\_ \_\_\_ \_\_\_ \_\_\_

2. Propane, C3H8, burns in air to form carbon dioxide and water. If 12 moles of carbon dioxide are formed, how many moles of propane were burned?  
  
Equation:   
  
**B**efore  
  
**C**hange  
   
**A**fter

3. Ammonia, NH3, for fertilizer is made by causing hydrogen and nitrogen to react at high temperature and pressure. How many moles of ammonia can be made from 0.15 moles of nitrogen gas?  
  
Equation:   
  
**B**efore  
  
**C**hange  
   
**A**fter

4. The poison gas phosgene, COCl2, reacts with water in the lungs to form hydrochloric acid and carbon dioxide. How many moles of hydrochloric acid would be formed by 0.835 moles of phosgene?

Equation:   
  
**B**efore  
  
**C**hange  
   
**A**fter

5. Iron metal and oxygen combine to form the magnetic oxide of iron, Fe3O4. How many moles of iron can be converted to magnetite by 8.80 moles of pure oxygen? (make your BCA table)

How many moles of iron oxide would be produced?