# G M M G

# Bellwork:

When 1.2 grams of magnesium metal is dropped into 0.1 mol of hydrochloric acid, how much magnesium chloride is produced?

# Vocab and tools:

*Your description based on the video Your chemistry description*

|  |  |  |
| --- | --- | --- |
| Theoretical yield |  |  |
| Actual yield |  |  |

*Example problem:*

An experimental procedure asks you to react 15.5 g of NH4Cl with an excess of AgNO3. In the reaction 35.5 g AgCl is produced. What is the percent yield?

NH4Cl + AgNO3 🡪 AgCl + NH4NO3

Percent yield:

Percent error:

1. Given a hydrogen fuel cell reaction where 11.3 grams of water are expected to be released, what is the percent yield if the fuel cell actually releases 8.44 g of water? What is the percent error?

2. In the decomposition reaction of calcium carbonate, CaCO3, if 20.7 grams of CaCO3 produces 6.81 grams of CaO, what is the percent yield?

a. Balanced chemical equation: \_\_\_\_CaCO3 \_\_\_\_ CaO + \_\_\_\_\_CO2

1 CaCO3 1 CaO + 1 C

b. Theoretical yield of CaO given that 20.7 g CaCO3 was used: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. Percent yield of CaO: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.   For the balanced equation shown below, if the reaction uses 0.112 grams of Fe3O4 and actually produces 0.059 grams of Fe, what is the percent yield of Fe?  
  
 Fe3O4 + 4 H23 Fe + 4 H2O

4.   How many grams of H2O are produced from burning 40.8 grams of C6H6O3 in the presence of oxygen, given that 39.0% yield is obtained?  
  
 \_\_\_\_C6H6O3 + \_\_\_\_O2\_\_\_CO2 + \_\_\_\_H2