Week 10 - Day 3

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# Week 10 - Day 3

Oct 21, 2016

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# Review of Clicker Question

## What is the percent yield of C2H2 if 62.80 g of water yields 15.38 g of C2H2 using the following equation.

* CaC2(s) + 2 H2O(l) → Ca(OH)2(aq) + C2H2(g)
* A) 13.84%
* B) 33.90%
* C) 91.47%
* D) 48.10%
* E) 68.52%

## Clicker 1

* Audio 0:09:39.924259
* Determine the percent yield of a reaction that produces 28.65 g of Fe when 50.00 g of Fe2O3 react with excess Al to produce aluminum oxide and Fe. (Al: 26.98, Fe: 55.85)
* A) 61.03 %
* B) 28.65 %
* C) 57.30 %
* D) 20.02 %
* E) 81.93 %
* Audio 0:14:38.501906

## Clicker 2

* Audio 0:15:05.138109
* In the reaction of Zn with hydrochloric acid (HCl) to give zinc(II) chloride and hydrogen, 25.0 grams of Zn have reacted with 17.5 g of HCl. How many grams of H2 will be produced? (Zn: 65.38, Cl: 35.45)
* A) 0.385 g H2
* B) 0.484 g H2
* C) 0.765 g H2
* D) 25.0 g H2

## Practice Problem: Stoichiometry—Limiting Reactant and Theoretical Yield

* Audio 0:33:24.010783
* Titanium metal is made by:
  + TiO2(s) + 2 C(s) è Ti(s) + 2CO(g)
* when 28.6 kg of C reacts with 88.2 kg of TiO2, 42.8 kg of Ti is produced.
  + Find the limiting reactant and the % yield, and how much TiO2 or C is left over

## According to the following reaction, what amount of Al2S3 remains when 20.00 g of Al2S3 and 2.00 g of H2O are reacted? A few of the molar masses are as follows: Al2S3 = 150.17 g/mol, H20 = 18.02 g/mol.

* Al2S3 + 6H2O -> 2Al(OH)3 + 3H2S
* A) 28.33 g
* B) 14.00 g
* C) 8.33 g
* D) 19.78 g
* E) 17.22 g

## Clicker 3

* Audio 0:41:38.872957
* Same question as above

## Combustion: A Type of Chemical Reaction

* Audio 0:45:33.408275
* A *combustion reaction* involves the reaction of a substance with O2 to form one or more oxygen containing compounds.
* Other products of a combustion reaction:
  + Water(H2O) and Heat(energy)
* Example: Combustion of methane
* CH4(g) + 2 O2(g) → CO2(g) + 2 H2O(g) + Heat

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## CH101-008 UA Fall 2016

* CH101-008 UA Fall 2016
* [jmbeach1@crimson.ua.edu](mailto:jmbeach1@crimson.ua.edu)
* jmbeach
* hey\_beach

Notes and study materials for The University of Alabama's Chemistry 101 course offered Fall 2016.