

Date March 7

1. Math Basics

- Significant digits
- Scientific notation

2. Calculating Atomic Mass -

- protons
- neutrons
- electrons

3. Standard Atomic Notation

A

~~Z~~

Date March 8

1. Atomic Mass

- Not always the periodic table values

2. Isotopes

- Define
- Calculating

1. Compounds + Mass

Molecules - molecular mass

Ionic Compounds - formula unit mass

Elements - atomic mass

2. The Mole

- molar mass

Date March 19

1. Unit Test Returned

- discuss problems
- 12% of course is done

2. Mole + Compounds

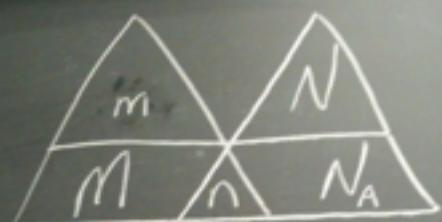
3. Mole calculations

Date March 20

1. Mole Calculations

2. Worksheet - molar mass + 1 step calculations

3. Page 106 - Homework



N_x } formula units - ionic compound
 } molecules - molecular compounds
 } atoms
 } ions

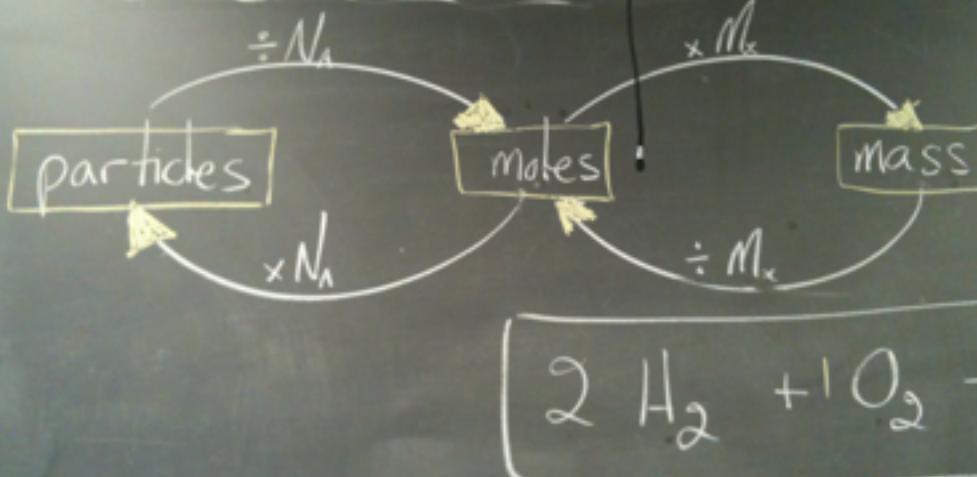
Formulas

$$M_x = \text{add values from periodic table}$$

$$n_x = \frac{m_x}{M_x} \quad m_x = n_x \times M_x$$

$$n_x = \frac{N_x}{N_A} \quad N_x = n_x \times N_A$$

Mole Calculations



Date March 21

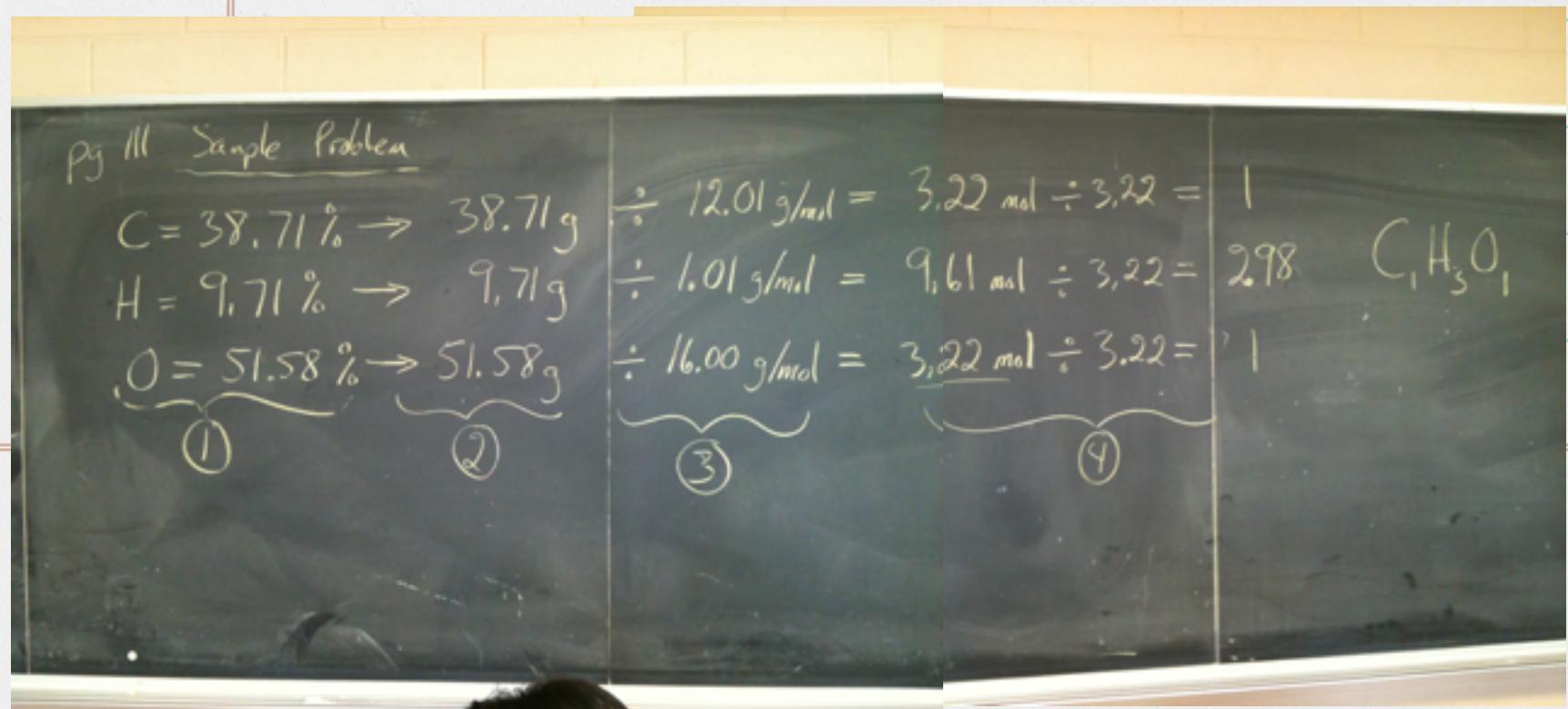
1. Page 106 - Concerns

2. Determining Chemical Formulas

(A) Percent Composition

- every compound can be described in terms of their element abundance in percent
- determined by a combustion analyzer

(B) Empirical Formula vs Molecular Formula



Date

March 22

1. Empirical Formula

- Define

- Steps for calculation

③ Empirical Formula (pg III)

Calculating Empirical Formulas

Step 1: Obtain percent composition data (given to you)

Step 2: Convert % comp data into grams
(assume sample of unknown is 100g)

Step 3: Convert masses (g) into moles
(divide by molar mass)

Step 4: Divide all mole values
by the lowest mole value

Step 5: Adjust all values
to whole numbers

- multiply all numbers
by 2 or 3

2. Molecular Formula

- Define

- Steps for calculation

④ The Molecular Formula

- describes the actual number of atoms of each element in the compound (the actual formula)
- The molecular formula is a multiple of the empirical formula
- Need molar mass of unknown
(Mass spectrometer)

3. Textbook Questions

- page 114

- page 118

- page 120

Calculating Molecular Formulas

Step 1: Obtain Empirical formula and molar mass of unknown

Step 2: Calculate the molar mass of the empirical formula

Step 3: Divide: $\frac{\text{molar mass of unknown}}{\text{molar mass of empirical formula}} = \#$

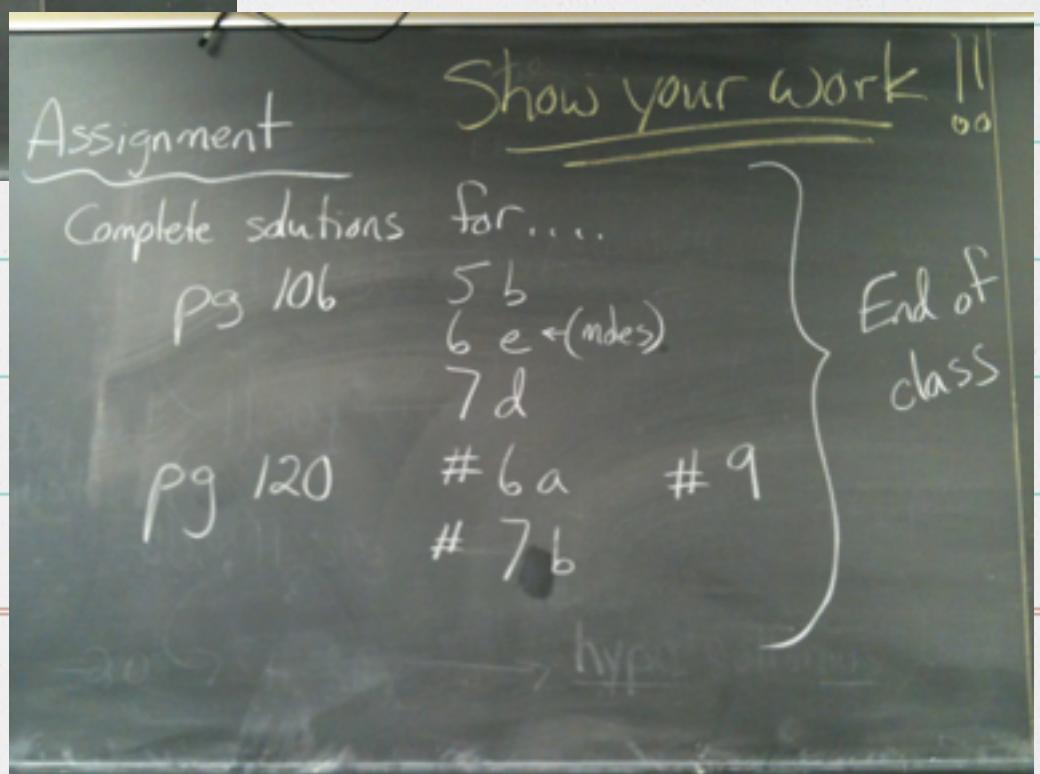
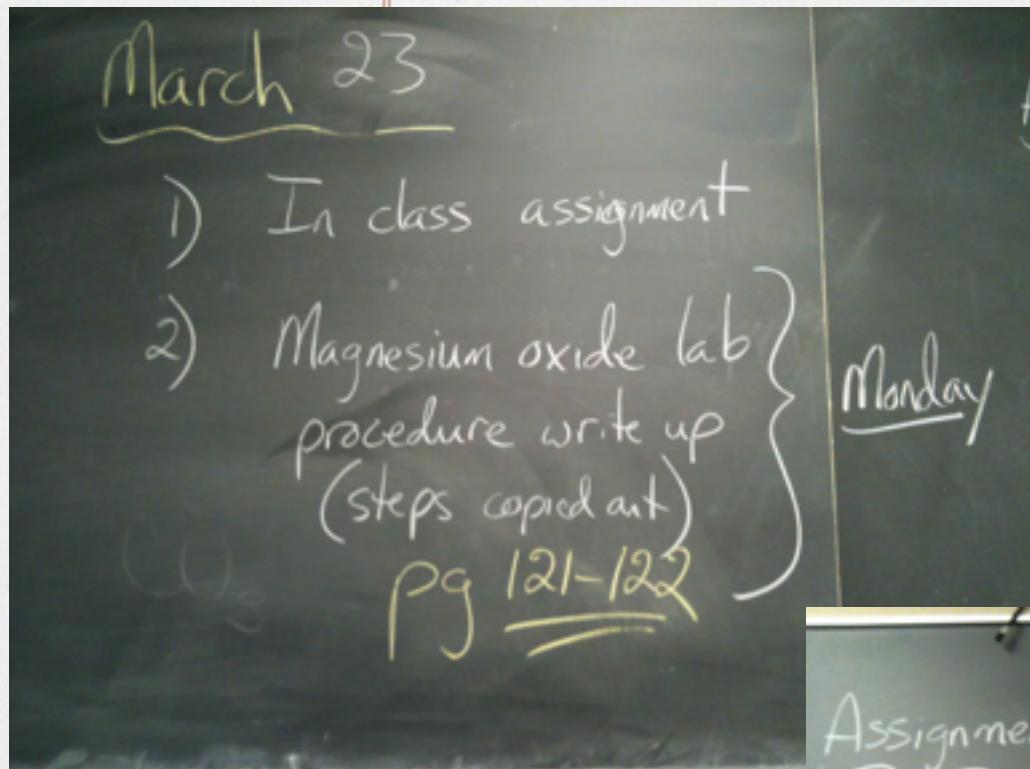
Step 4: Multiply empirical formula by the #

SCH UCI
page 118 #36

Stains of art
2-8 2012 pg
RIBS
Ch14.2 Test
Wed-March 21

Date March 23

1. In class assignment
 - page 120 #6-8, page 106 7d, 6e, 5b
2. Read MgO lab procedure
 - write out steps



Date March 26

1. Bunsen Burner Instructions

2. MgO procedure review / MgO Lab

Write up: Pg 121

Friday !!.

1. Title page Name, Lab Title, Due Date

2. Purpose, hypothesis (prediction - a), periodic table
procedure (copied with changes),
observations (qualitative and quantitative),
calculations (analysis part d, e),
analysis (b, c, h),
evaluation (f, g, i, j) percent error calculation)

Pg 107

TABLE 5

3. Procedure (if copied before lab) ←

4. Lab sheet

Typek

1. Discuss Lab?

2. Concentration Calculations

-page 123

- Define, equation (general)

$$C = \frac{\text{Solute}}{\text{Solution}}$$

3. Specific Equations

%Conc

PPM/PPB/PPT

Molar

-Summary page 13

4. Go through Textbook section complete 7-12 questions

Date March 28

PG 123-133

Textbook
questions

Friday

1. Concentration

% Concentration

PPM

Molar Concentration

work
period

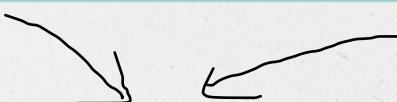
+
work on
lab

2. Dilutions

- More solvent, same solute

mole initial = mole final

$$C \times V = n_i \quad C \times V = n_f$$



$$C_i V_i = C_f V_f$$

Date

March 28

March 30th +

1. Hand in Lab

2. Dilutions

3. Worksheet → Textbook Questions

4. Read over Lab CuSO₄ Spectrophotometer

Nope

Making Solutions

1) From a solid

$$n = C \times V, \quad m = n \times M_w$$

2) From dilutions

$$C_1 V_1 = C_2 V_2$$