Today:

1) **HW check**
2) **Aluminum foil experiment**
3) **Start the homework**

Purpose:

Day 2 of practicing Dimensional Analysis.

WARMUP :

Calculate and round to correct sig figs:

$$\frac{(8.22\text{x}10^{-16})}{1} * \frac{(7.45\text{x}10^{4})}{(5.8\text{x}10^{-6})} =$$

answer: $1.1\text{x}10^{-5}$

announcements

Memorize more elements for Friday. See the website. After Friday you will never be tested on element names.

We're in the computer lab Thursday.

Stand up for extra credit if you wore a toga

mark-it-up conversion factors

East H. S. CA3mIs+ry

Mr. Genest

Name ANSWER

Date

Tutors! Adults! Help this young chemist by visiting **http:genest.weebly.com** with any smart phone

#1

Step One: Underline the starter unit (the unit that is not paired with another unit. Circle pairs of units. Draw a box around the goal unit.

If thorium is 11.7 grams per mL, what is the mass of 35.2 mL of thorium? (This is the question from last week's quiz)

Step Two: Write down the important info here.

What's the starter number?

35.2 mL

What is the goal unit?

grams

Write all the 'for every' statements that will make useful conversion factors.

For every 11.7 grams there are 1 mL of thorium.

Step Three: Solve below using dimensional analysis. Write words before you write numbers.

$35.2\,mL \times \left(\frac{11.7\,grams}{1\,mL}\right) = 411.84$

412 grams

#2

Step One: Underline the starter unit (the unit that is not paired with another unit. Circle pairs of units. Draw a box around the goal unit.

What is the volume in cm^3 of 400. grams of ethanol? Ethanol has a density of 0.789 g/mL. (This was on last week's cowboy sheet)

Step Two: Write down the important info here.

What's the starter number?

400. grams

What is the goal unit?

cm^3

Write all the 'for every' statements that will make useful conversion factors.

For every 1 cm^3 of ethanol there are 0.789 grams

Step Three: Solve below using dimensional analysis. Write words before you write numbers.

$400.\,grams \times \left(\frac{1\,mL}{0.789\,grams}\right) = 507\,mL$

#3

Step One: Underline the starter unit (the unit that is not paired with another unit. Circle pairs of units. Draw a box around the goal unit.

Pearl is planning a party for the defensive team of the Wisconsin Badgers (11 people). She wants to order enough lasagna so that every player can have 5 pieces. When she calls the restaurant, they tell her that a large lasagna is cut into 9 pieces and costs $34.18. How much money will Pearl need in order to feed all of her guests?

Step Two: Write down the important info here.

What's the starter number?

11 people

What is the goal unit?

dollars

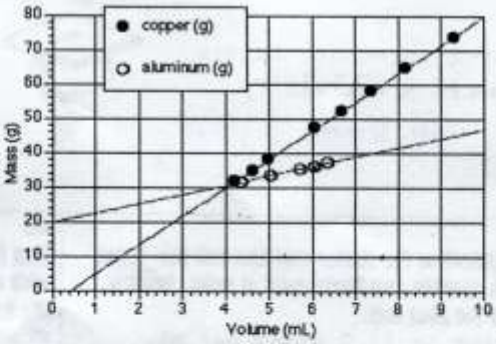
Write all the 'for every' statements that will make useful conversion factors.

For every lasagna there are 34.18 dollars.

Step Three: Solve below using dimensional analysis. Write words before you write numbers.

$$11\ \text{people} \times \left(\frac{5\ \text{piece}}{1\ \text{Person}}\right) \times \left(\frac{\text{dollar}}{\text{piece}}\right)$$

$$11\ \text{people} \times \left(\frac{5\ \text{pieces}}{1\ \text{person}}\right) \times \left(\frac{34.18\ \text{dollar}}{9\ \text{piece}}\right) \approx 208.5\ \text{dollar}$$



#4

Step One: Underline the starter unit (the unit that is not paired with another unit. Circle pairs of units. Draw a box around the goal unit.

What will be the mass in grams of a 842 mL aluminum unicorn? You need to find slope from the above graph to make a conversion factor.

Step Two: Write down the important info here.

What's the starter number?

842 mL

What is the goal unit?

grams

Write all the 'for every' statements that will make useful conversion factors. Strategy: You will need the slope from the above graph.

For every 36 grams there are 6 mL

Step Three: Solve below using dimensional analysis. Write words before you write numbers.

$$842\ \text{mL} \times \left(\frac{36\ \text{gram}}{6\ \text{mL}}\right) = 5052\ \text{gram} \approx 5000\ \text{gram}$$