Dear Students,

If you get one of "these" letters, that means that your pen pal had different plans than writing you. They have other good qualities, but quick letter writing seems beyond them this week. Or, it could be that they were absent, which is hardly their fault, so I filled in. Either way, as long as YOU wrote them, you're good. Here's some stuff to consider before Friday…

Lots of vocabulary in Matter, starting with these words: matter, element, compound, pure and mixed substances, homogeneous vs. heterogeneous mixtures, solution, solid, liquid, gas, and aqueous too. Also you need to be able to recite the whole standard issue Law of Conservation Matter:

"Matter cannot be created or destroyed in a chemical reaction, or a physical change." A physical change is a phase change. There are six of those too, you better know one from another.

Then there are all those guys, in order: Democritus, Dalton, Thomson, Rutherford, Bohr, and the modern or the Wave Mechanical model. There are model names, foolish ideas that get fixed along the way, etc. The gold foil experiment, and Bohr's ideas of spectra which you saw in the electrons lab this week. Know it ALL. Especially the spectra stuff.

You have to be able to count atoms in compound formulas. NaCl is just 1 + 1 = 2. The harder ones have (these) things, parenthesis, like $Al_2(CO_3)_3$ which works out to 2 + (4)3 = 14 total. Got that?

And particle diagrams, which are cartoons that can show you solid, liquid, gas, or mixtures or compounds. Not all diagrams are interchangeable. For example, ʘ◊ʘ is in a 1:2 or a 2:1 ratio. It might be water, or CO_2, but it can't be NH_3 or CH_4. The cartoon characters must add up to the proper ratio. It also can't be NaCN, which is sodium cyanide, one atom each of sodium, carbon, and nitrogen. The cartoon particle diagram for that could be ʘ◊◯ which has 3 different atoms described. Be careful and check through your matter comix!

You need to count the numbers of Protons, Neutrons, and Electrons in any atom (see your 39 Atoms handout).

And, the hard part, average atomic mass calculations. Here is one example from the notes, to review.

Rubidium has 2 common isotopes, Rb-85 which makes up 72.2% of all naturally occuring rubidium. The other isotope, Rb-87 makes up the rest, or 27.8%. Calculate the average atomic mass of Rubidium now.

(85 amu)(.722) = 61.37 amu

(87 amu)(.278) = 24.186 amu

Sum of both parts of the math: 61.37 amu + 24.186 amu = 85.886 amu which is 85.9 amu with 3 SF

If therer are more isotopes, it might take 3 or even 4 lines of math.
MAKE sure your decimals add up to 1.0000 = 1 whole amount.

Re-read the BASICS, practice your vocabulary, and begin to grasp that you should memorize the symbols and names of the first 40 elements on the Perioidic Tables. If you do, you will spend less time searching (wasted) when you are in a hurry. Spend some time now learning, save lots of time on the other side. Trust me, it's worth it. I know.

Read more, redo math problems again. You can have a 100%, it takes practice. You will most likely get exactly what you deserve and earn.

Good luck, sincerely, Charlie Arbuiso (I'm your chemistry teacher)