**What’s On Test #3 – Topics in Chemistry**

Some of you may be wondering what, exactly, is on the test. Now, I’m not going to tell you what questions I’ll be asking, but I *will* tell you the information being covered. If you know the following, you should be A-OK for the test. Note: As I write this, it’s 6:45 in the morning. There’s always the possibility that I’ve forgotten something, so if you see something in your notes that I’ve previously either put on a quiz or indicated is important, you should probably know that, too. However, as of this early hour, this is, to the best of my recollection, what you need to know.

And, just as a reminder, if you want to come get help before school on Monday, please feel free to come in. I’ll be here by 6:45 am.

**Topics on the midterm:**

Early history of the atom:

* List Dalton’s laws and indicate which are true. This is problem 1 on the test.
* Be able to fill out a chart in which you can find the protons, neutrons, electrons, atomic mass, atomic number, and atomic symbol of isotopes given information about the others.
* Know what an isotope is and how it differs from other isotopes of an element.
* Know what average atomic mass is and be able to calculate it given a list of masses and isotopic abundances.

Bohr and spectroscopy:

* Understand the Bohr model of the atom. Be able to label the nucleus, the orbitals, and the electrons, if asked.
* When an atom is heated, what happens to the electrons in the ground state orbitals? Why does the atom give off light when it is heated?
* Understand what spectroscopy is and how it is useful.
* Understand the difference between a line spectrum and a continuous spectrum. Know how each are formed.

Quantum mechanics:

* How is the concept of electrons different in quantum mechanics than in the Bohr model of the atom?

Periodic table:

* What are the properties and locations on the periodic table of metals, nonmetals, and metalloids?
* How does bonding differ between metals, nonmetals, and metalloids?
* How does bonding in metals, nonmetals, and metalloids affect the properties of each?
* What are families, groups, and periods in the periodic table?

Things you should study:

* THE REVIEW SHEET. STUDY THE REVIEW SHEET! YOU’LL BE GLAD YOU DID!
* Old homework assignments
* The PowerPoints I gave you
* The flash cards
* Old quizzes
* Practice problems on my website ([www.chemfiesta.com](http://www.chemfiesta.com/)).
* Any vocabulary or terminology you’ve seen

Ways of studying that might be less useful:

* Questions or practice tests you’ve found online: I write all of my own questions, so you will not find any of the test questions anywhere online (except for maybe my website).
* Finding definitions on Wikipedia or elsewhere: These explanations, while correct, and frequently more complex than you need to explain the concept. By all means, use Wikipedia if it helps you to understand a concept more completely. However, be aware that the explanations may be more confusing than enlightening.
* AI: If you’d like to use AI to explain things for you, you may or may not get a useful answer. There’s a term in AI called “hallucinations” in which an AI will come up with incorrect or misleadings answers to questions asked of them. I’ve found this is often the case. In my mind, there’s nothing unethical about using AI to study, but you may find whatever it tells you to be misleading.