Lecture Format: Friday, Oct 24

Structure of the atom:

Nucleus: Protons + / Neutrons 0 But BOTH are 1 AMU and create the mass of an atom.
Electrons: Found in the electron cloud: - charge 0 AMU
7 levels for electrons: 1st level ONLY holds 2 electrons,
2nd level: 8
3rd level : 18
4th level:32
There are what are called "subshells" for each of these levels BUT for our purposes we're only going to concentrate on the "whole" level.

The number of PROTONS in the nucleus determines what the element is.
The number of protons NEVER changes for that element. In other words: an element with only 1 proton will ALWAYS be hydrogen, 2 protons will ALWAYS be Helium and so on.

The number of protons is ALWAYS equal to the number of electrons BECAUSE the atom is ALWAYS a neutral or ZERO charge. This will change when the elements start bonding, but we'll talk about that later.

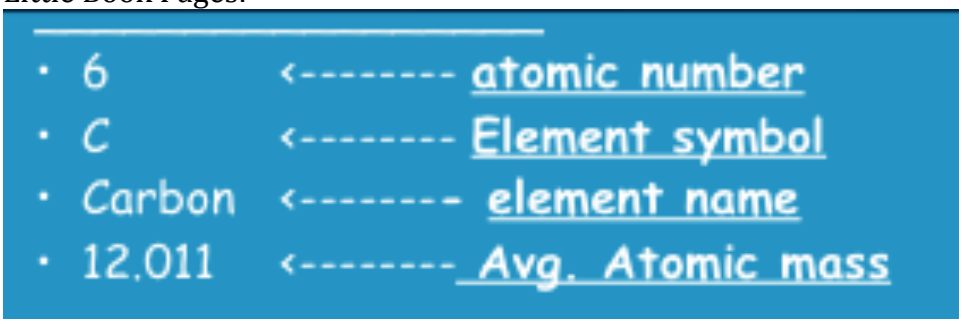
SO: # of Protons = # of Electrons. Reminder: # of Protons determines WHAT the element is

# of protons + # of neutrons when you actually add what is present together is the Mass Number on the periodic table, however, that takes an "average" of the # of neutrons (because sometimes the same element has different numbers of neutrons. That is called an isotope, and we'll talk about that on Monday.
So: On the periodic table, the # of neutrons is an AVERAGE. When you add the # of neutrons to the # of protons you get the Atomic Mass Unit or AMU.

To summarize:

	Position	Charge	Mass
Proton	nucleus	+	1 amu
Neutron	nucleus	none	1 amu
Electron	Electron cloud	-	0 amu

Little Book Pages:



Remember: The Atomic number is the number of protons in the nucleus

The AMU (the Atomic Mass Unit) is the number of protons PLUS the number of neutrons in the nucleus

In carbon's case that would be:(6 protons+6 neutrons)
for an average carbon atom. There are actually some carbon atoms which have 8 neutrons, and they are referred to as Carbon 14… (6 protons + 8 neutrons) and that is a radioactive isotope which is used for carbon dating of fossils!

Let's look at the little book pages you need to complete.