



Name _____

Hour _____

Use the Atom Builder Website from this link:
<http://www.pbs.org/wgbh/aso/tryit/atom/>

Or

go to the Chemistry/Links page of our science website
 (www.myscience8.com)

Good stuff to know when building an atom:

Protons have a charge of +1.

Electrons have a charge of -1.

Neutrons are neutral, as its name implies.

A **stable atom** has a net charge of 0 (an equal number of protons and electrons).

When the number of electrons does not equal the number of protons, the atom is **ionized**.
 (The atom is then called an ion).

Do not allow your atom to become too ionized. Ions are attracted to other atoms and molecules. If your atom is too ionized, it will likely zip away from you and attach itself to a nearby atom or molecule.

An atom becomes **radioactive** when its nucleus contains too many or too few neutrons. Try to keep the same number of neutrons and protons as you build your atom. If the imbalance is too great, radioactive decay will occur.

Up to two electrons may exist in the atom's first shell.

Up to eight electrons may exist in the atom's second shell.

Fill up the inner shells first. An electron may "drop" from an outer shell if an inner shell is not full. This results in the release of energy in the form of a photon.

| | |
|-------------------------|---------------------------|
| 1 H HYDROGEN 1 | 2 He HELIUM 4 |
| 3 Li LITHIUM 7 | 4 Be BERYLLIUM 9 |

| | |
|------------------------|---|
| 6 C CARBON 12 | Atomic Number = Number of Protons = Number of Electrons |
| C | Chemical Symbol |
| CARBON | Chemical Name |
| 12 | Atomic Weight = Number of Protons + Number of Neutrons* |

| | | | | | |
|-----------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|
| NON-METALS | | | | | |
| 5 B BORON 11 | 6 C CARBON 12 | 7 N NITROGEN 14 | 8 O OXYGEN 16 | 9 F FLUORINE 19 | 10 Ne NEON 20 |

Use the Atom Builder to make atoms of each of these elements. Draw them in the spaces below. Hydrogen is already done.

