**Isotopes Notes:**

Atoms are identified by their \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is the number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If two atoms have different numbers of \_\_\_\_\_\_\_\_\_\_\_\_\_ they are atoms of two different elements.

If two atoms have the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ they are atoms of the same element.

Atoms of the same element may differ in their number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Two atoms with the same number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ but different number of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are called **isotopes**.

Because the neutron has a mass of \_\_\_\_\_\_\_\_\_\_, different isotopes of an element will have a different \_\_\_\_\_\_\_\_\_\_\_\_\_.

Carbon has one isotope that has a mass of 12 amu and another isotope with a mass of 14 amu.

What would be the number of protons, electrons, and neutrons for those two isotopes of carbon?

C- 12 p+ = C – 14 p+ =

 e- = e- =

 n = n =

The proper symbol for these two isotopes will show the symbol with the mass number written as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the number of protons written as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

EX: (complete the two examples)

 Carbon – 12 Carbon - 14

 C C

The \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ shown on the Periodic Table for each element is an \_\_\_\_\_\_\_\_\_\_\_\_ based on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of all the known \_\_\_\_\_\_\_\_\_\_\_\_\_ for that element.