**Lab: Isotopes—Datasheet**                               Name_____

**Purpose**:  A new element has been discovered and it is your responsibility to learn the following about the element:
- the number of naturally occurring isotopes present in the element
- the percentage of each isotope present in your sample of the element
- the atomic mass of the element

**Procedure:**
1. Obtain a sample of the element from your teacher and record its ID number above the chart.
2. Count the total number of atoms in your sample and record in the space labeled as such beside the blank for the ID#.
3. Separate the element into its different isotopes.  Assign each isotope a letter to identify it and record this letter in the first column of the chart.
4. Count the number of atoms of each isotope and record in the second column of the chart.
5. Calculate the percentage of each isotope present in your element (# of atoms of isotope/total # of atoms in sample) and record in the last column of the chart.
6. Mass each isotope group of atoms and record in the third column under "Mass of Isotope Group".
7. Calculate the average mass of one atom of that isotope (Mass of Isotope Group/ # of atoms of that isotope) and record under "Average Mass of Isotope Group."

ID #_____            Total # of Atoms in Sample _____

| Isotope | # of atoms in Isotope Group | Mass of Isotope Group | Average Mass of Isotope Group | Percentage of Isotope Group |
|---------|------------------------------|------------------------|-------------------------------|------------------------------|
|         |                              |                        |                               |                              |
|         |                              |                        |                               |                              |
|         |                              |                        |                               |                              |
|         |                              |                        |                               |                              |

8. On the back of this worksheet, determine the average atomic mass of your element using this equation: *Be sure to show your work!*
   **Average atomic mass = (avg. mass of isotope)(%) + (avg. mass of isotope)(%) + ...**
   (*Remember that % means "per 100".  In a calculation, 50% becomes 50/100 or 0.50.*)
9. Give your element a name and symbol and record the information here. Remember that this is a new element so you, as a scientist, get to name this element whatever you want!
   Element Name:_____    Symbol_____    Atomic Mass_____