Calculating Average Atomic Mass Worksheet - Answer these Questions in your Interactive Notebook

$$\frac{(\text{Amount A})(\text{Mass of A}) + (\text{Amount of B})(\text{Mass of B}) + (\text{Amount of C})(\text{Mass of C})}{100}$$

1. The three isotopes of lead are shown below, each with its percent by mass abundance and the composition of its nucleus. Using the following data, calculate the average atomic mass of lead.

|  | A | B | C |
|---|---|---|---|
| **Mass** | 206 amu | 207 amu | 208 amu |
| **Amount** | 27.63% | 20.82% | 51.55% |

2. Calculate the average atomic mass of sulfur using the following information:

Sulfur isotope A atoms have a mass of 31.972 amu and are found at an amount of 95.00%.
Sulfur isotopes B atoms have a mass of 32.971 amu and are found at an amount of 0.76%.
Sulfur isotopes C have a mass of 33.967 amu and are found at an amount of 4.22%.

3. The element copper has naturally occurring isotopes with mass numbers of 63 and 65.
The relative abundance and atomic masses are 69.2% for a mass of 62.93 amu and 30.8% for a mass of 64.93 amu. Calculate the average atomic mass of copper.

4. Calculate the average atomic mass of bromine. One isotope of bromine has an atomic mass of 78.92amu and a relative abundance of 50.69%. The other major isotope of bromine has an atomic mass of 80.92amu and a relative abundance of 49.31%.

5. There are three isotopes of silicon. They have mass numbers of 28, 29 and 30. The average atomic mass of silicon is 28.086 amu. What does this say about the relative abundances of the three isotopes?