Isotope Lab

**Introduction:**

Isotopes are atoms with too many or too few neutrons, theses atom behave the same chemically as other atoms of that element. Many isotopes exist freely in nature and do not harm people. Some isotopes are even used by people for example C-14 is used to estimate the date of old objects or artifacts, I-139 is used to treat thyroid cancer patients, and Am- 249 is used in smoke detectors.

In this lab you will investigate 10 different isotopes and identify the mass number of each.

**Procedures:**

Observe each of the labeled Ziploc bags and identify the number of black and blue marbles. Complete the table below. The black marbles are protons and the blue marbles are neutrons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ziploc Bag # | Number of p+  Black marbles | Number of n0  Blue marbles | Mass Number | Isotope Name |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 |  |  |  |  |
| 10 |  |  |  |  |

Analysis Questions:

1. An atom has a mass number of 12 and 6 protons. How many neutrons does this atom have?
2. How many neutrons are in a Carbon-13 atom?
3. How many neutron are in Li7

NO GRAPH FOR THIS LAB.

Conclusion: (identify which zip lock bag had the highest mass number and which zip lock bag had the lowest mass number).