

Name _____

Sci# _____

Isotope Lab

Today you will be doing a lab that will deal with isotopes, mass number, and atomic number. Before you begin your work on the lab, try to explain these terms in your own words.

1) What is an isotope?

2) What is atomic number? (Hint: Which part of the atom is it equal to?)

2) What is mass number? (Hint: How is it calculated?)

Procedure:

1) Go to the lab station

2) Take the green atom and weigh and record the mass.

3) What was the mass of the green atom? _____ g

4) Open up the green atom and pour out the contents. The white lifesavers represent the neutrons, the color lifesavers represent the protons

5) How many white and color lifesavers did you find inside the atom?

Protons _____ Neutrons _____ Total Lifesavers _____

6) Weigh and record the green atom's empty shell

7) Calculate the mass of the lifesavers:

mass of green atom – mass of empty shell = mass of lifesavers =

8) Considering that all the lifesavers weight the same amount and you know how many lifesavers there are, calculate the mass of a single lifesaver?

9) This is the mass for every single proton and neutron

10) Place all the lifesavers back in the green atom (there should be 2 white neutrons and 2 color protons) and put the lid back on it. Please notify the instructor if there is not.

11) Which element does this atom represent?

12) Weigh and record the mass of atoms A, B, and C on the data table.

13) Calculate the mass of the lifesavers inside the atom **without opening the atom.**

