6.2.A
7.2.A

Name:
Lab Partner:

Period:
Date:

Atomic Structure – A Journey into the Atom

Introduction:

Atoms are composed of subatomic particles, such as the protons and the neutrons, which make up the nucleus of the atom and are similar in mass, and electrons, which are found orbiting the nucleus in an electron, cloud and have a negligible mass. All atoms contain the same kinds of particles but may differ in the number of each particle. This accounts for the presence of isotopes and ions for the different elements.

This activity will allow you to use what you know about the composition of the atom, as well as isotopes and ions, to describe sixteen atoms. The atoms are contained in Ziploc bags and the subatomic particles are coded as follows.

Protons – [redacted] Red Beans
Neutrons – white beans
Electrons – [redacted] Black Beans

Purpose:

Students will collect data and relate number of subatomic particles to atomic number, mass number, electrical charge, atomic symbol, and name of element.

Equipment:

Materials:

Ziploc bags representing atoms

Procedure:

Analyze each Ziploc bag (atom) and record its vital statistics in the data table provided.

Data Analysis:

1. List all sets of isotopes. How do you know they are isotopes?

2. List all sets of ions. How do you know they are ions?

Name_____ Date_____ Period_____

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Bag #	# of Protons	# of Neutrons	# of Electrons	Atomic Number	Mass Number	Electrical Charge	Chemical Symbol	Name
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
16								