

## Atomic Structure Worksheet #06

1. The 3 particles of the atom are: a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_

Their respective charges are: a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_

2. The number of protons in one atom of an element determines the atom's \_\_\_\_\_, and the number of electrons determines \_\_\_\_\_ of an element.

3. The atomic number tells you the number of \_\_\_\_\_ in one atom of an element. It also tells you the number of \_\_\_\_\_ in a neutral atom of that element.

The atomic number gives the "identity" of an element as well as its location on the Periodic Table. No two different elements will have the \_\_\_\_\_ atomic number.

4. The \_\_\_\_\_ of an element is the average mass of an element's naturally occurring atom, or isotopes, taking into account the \_\_\_\_\_ of each isotope.

5. The \_\_\_\_\_ of an element is the total number of protons and neutrons in the \_\_\_\_\_ of the atom.

6. The mass number is used to calculate the number of \_\_\_\_\_ in one atom of an element. In order to calculate the number of neutrons you must subtract the \_\_\_\_\_ from the \_\_\_\_\_.

7. Give the symbol and number of protons in one atom of:

Lithium, Bromine, Iron, Copper, Oxygen, Mercury, Krypton, Helium,

8. Give the symbol and number of electrons in a neutral atom of:

Calcium, Chlorine, Boron, Iodine, Silver, Xenon.

9. Give the symbol and number of neutrons in one atom of:

(To get "mass number", you must round the "atomic mass" to the nearest whole number)

Show your calculations: Barium \_\_\_\_\_ Bismuth \_\_\_\_\_ Carbon \_\_\_\_\_ Hydrogen \_\_\_\_\_

10. Name the element which has the following numbers of particles:

a. 26 electrons, 29 neutrons, 26 protons \_\_\_\_\_

b. 53 protons, 74 neutrons \_\_\_\_\_

c. 2 electrons (neutral atoms) \_\_\_\_\_

d. 20 protons \_\_\_\_\_

e. 80 electrons, 125 neutrons, 82 protons (charged atom) \_\_\_\_\_

f. 0 neutrons \_\_\_\_\_

11. Provide the information (Element, Number of Protons, Atomic number, Number of electrons in neutral atoms and mass number) for:



13. Given the following information, calculate the atomic mass of Nitrogen and Oxygen.

Nitrogen	Oxygen
${}^{14}\text{N} - 99.64\%$	${}^{16}\text{O} - 99.763\%$
${}^{15}\text{N} - 0.36\%$	${}^{17}\text{O} - 0.0375\%$
	${}^{18}\text{O} - 0.1995\%$