

## Basic Atomic Structure Worksheet

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 the \_\_\_\_\_ of the 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 of and the number of protons in one atom of:

Lithium \_\_\_\_\_

Bromine \_\_\_\_\_

Iron \_\_\_\_\_

Copper \_\_\_\_\_

Oxygen \_\_\_\_\_

Mercury \_\_\_\_\_

Krypton \_\_\_\_\_

Helium \_\_\_\_\_

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

Uranium \_\_\_\_\_

Iodine \_\_\_\_\_

Boron \_\_\_\_\_

Xenon \_\_\_\_\_

Chlorine \_\_\_\_\_

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

(Mass numbers are ALWAYS whole numbers...show your calculations)

Barium \_\_\_\_\_

Bismuth \_\_\_\_\_

Carbon \_\_\_\_\_

Hydrogen \_\_\_\_\_

Fluorine \_\_\_\_\_

Magnesium \_\_\_\_\_

Europium \_\_\_\_\_

Mercury \_\_\_\_\_

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. 86 electrons, 125 neutrons, 82 protons \_\_\_\_\_
- f. 0 neutrons \_\_\_\_\_

11. If you know ONLY the following information can you ALWAYS determine what the element is? (Yes/No)

- a. Number of protons \_\_\_\_\_
- b. Number of neutrons \_\_\_\_\_
- c. Number of electrons in a neutral atom \_\_\_\_\_
- d. Number of electrons \_\_\_\_\_

12. Fill in the missing items in the table below.

NAME	SYMBOL	Z	A	# PROTONS	# ELECTRONS	# NEUTRONS	ISOTOPIC SYMBOL
a.	Na						
b.		17			18		
c. Potassium							
d.	P						
e. Iron					24		
f.				53			
g. Silver							
h.		36					
i.	W						
j.		29					
k.				49			
l.				79	78		
m.		16			18		