

Name_____

Parts of an Atom and The Periodic Table Ver A

1. Are the following statements regarding Dalton's atomic theory true or false?
 - a. (True/False) All nitrogen atoms are identical.
 - b. (True/False) Boron and oxygen atoms have the same mass.
 - c. (True/False) Sodium and chlorine atoms combine in a 1:1 ratio to form sodium chloride (salt)
2. Are the following statements regarding electrons true or false?
 - a. (True/False) Electrons have a charge of 1-.
 - b. (True/False) If an atom has an equal number of protons and electrons, it will be neutral.
 - c. (True/False) Electrons are found in the nucleus of the atom.
3. Are the following statement regarding protons true or false?
 - a. (True/False) Protons have the same mass as electrons.
 - b. (True/False) Protons are positively charged.
 - c. (True/False) Protons are found in the nucleus of the atom.
4. What is the name and number of protons for each of the following atoms?

	Name	Number of protons
a. Na		
b. Li		
c. Cr		
d. Se		

5. For the following elements, give their name and their atomic number.

	Name	Atomic Number
a. F		
b. P		
c. K		
d. Co		

6. What is the **symbol** for the following elements?

- a. Magnesium _____
- b. Phosphorus _____
- c. Iron _____
- d. Copper _____

7. What is the name of that contains the following elements? (*the name of the **group** the element is in, not the name of the element*)

a. lithium _____ b. Ca _____

c. chlorine _____ d. Ar _____

8. Classify each of the following as a metal, nonmetal, or metalloid.

a. sodium _____ b. silicon _____

c. nitrogen _____ d. copper _____

9a. **Circle** the metals in the following group.

C Ca Br Co Ni Ar Li Al O

b. Write the **symbol** and the **name** of the element in the above group that is in the alkali family.

c. Write the **symbol** and the **name** of the element in the above group that is in the alkaline earth metal family.

d. Write the **symbol** and the **name** of the element in the above group that is in the halogen family.

10. Which element would you expect to be most similar to calcium? Why?

- a. Potassium
- b. silver
- c. bromine
- d. magnesium

Reason for answer _____

11. Determine the number of protons and neutrons and each of the following

	Protons	Neutrons
a. $^{41}_{20}\text{Ca}$	_____	_____
b. $^{55}_{26}\text{Fe}$	_____	_____
c. $^{23}_{11}\text{Na}$	_____	_____
d. $^{18}_8\text{O}$	_____	_____

12. Write the symbols for each other the following in the form symbol-mass number
(for example Na-23)

a. A bromine isotope with 43 neutrons. _____

b. A phosphorus isotope with 16 neutrons. _____

c. A chromium isotope with 27 neutrons. _____

d. A neon isotope with 12 neutrons. _____

13. Consider:

$^{24}_{12}\text{Mg}$ $^{25}_{12}\text{Mg}$

These 2 atoms are called the _____ of Magnesium.

14. Determine the number of protons and electrons and each of the following ions.

	Protons	Electrons
a. Al^{3+}	_____	_____
b. S^{2-}	_____	_____
c. I^-	_____	_____
d. Ag^+	_____	_____

15. Complete the following table

Element / Ion	Atomic Number (Z)	Mass Number (A)	Charge	Number of Protons	Number of Neutrons	Number of electrons
$^{24}_{12}\text{Mg}$						
		39	0		20	
	11	23				10
	9		1-		10	
$^{27}_{13}\text{Al}^{+3}$						
				82	125	80
		24	2+	12		