

1) Look at the periodic table of the elements. How many capital letters are there per atom?

2) If there are two letters given as the atomic symbol, which of the two is capitalized?

ATOM OR COMPOUND?

- 3) N _____
- 4) Na _____
- 5) NaOH _____
- 6) Pb _____
- 7) S _____
- 8) PbS _____

HOW MANY TOTAL ATOMS?

- 9) H _____
- 10) H₂ _____
- 11) H₂O _____
- 12) 3H₂O _____

13) What is the difference between a chemical and a physical change?

14) What things might happen during a reaction that shows that a chemical change is occurring? (name at least 5 things)

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

15) List at least 5 happenings that are just physical changes, and not chemical

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

16) What is the charge of a proton? _____

17) Where is a proton located? _____

18) What is the charge of a neutron? _____

19) Where is a neutron located? _____

20) What is the charge of an electron? _____

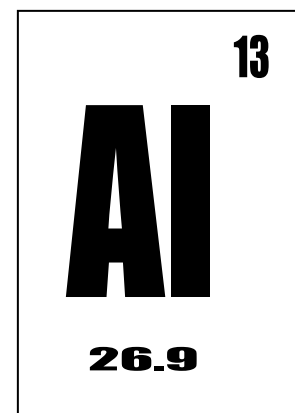
21) Where is an electron located? _____

Use the picture on the right to answer the questions 24-29 →

22) How many protons in this element? _____

23) How many neutrons? _____

24) How many electrons? _____



- 25) How many electron energy shells? (highways?) draw a Bohr model to help you figure this out, or use the periodic table _____
- 26) How many electrons in the valence shell? _____
- 27) What is the name of this element? _____
- 28) What are the 2 ways atoms can bond, and describe how each works

FILL IN THE TABLE (140PTS)

Element symbol	Element name	Atomic number	Protons	neutrons	Electrons	Valence electrons	Number of energy levels
H							
He							
Li							
Be							
B							
C							
N							
O							
F							
Ne							
Na							
Mg							
Al							
Si							
P							
S							
Cl							
Ar							
K							
Ca							

FILL IN THE TABLE (17PTS)

DESCRIPTION	FAMILY	NUMBER OF ELECTRONS IN OUTER ENERGY LEVEL
Column 1		
Column 2		
Column 13		

Column 14		
Column 15		
Column 16		
Column 17		
Column 18		
Columns 3-12		varies

WHICH 2 PHRASES ARE **TRUE**? (7PTS)

1. Active nonmetals
 - a. Are found in the upper right-hand corner of the periodic table
 - b. Gain electrons from other elements
 - c. Include family 18 of the periodic table

2. Active metals
 - a. Are found in the lower left-hand corner of the periodic table
 - b. Do not react with other elements easily
 - c. Easily lose electrons

3. Metals
 - a. Most are solid at room temperature
 - b. Are good conductors of heat and electricity
 - c. Include the halogens

4. Period
 - a. Is a horizontal row in the periodic table
 - b. Begins a repeating pattern of physical and chemical properties of elements
 - c. Consists of seven elements

5. Metalloids
 - a. Have metal and nonmetal characteristics
 - b. Include the element aluminum
 - c. Are found on either side of the stair-step line of the periodic table

6. Nonmetals
 - a. Most are gases at room temperature
 - b. Most do not conduct heat or electricity well
 - c. Include the transition elements

7. Noble gases
 - a. Have a complete valence shell
 - b. Make ionic bonds **ONLY**
 - c. Do not combine with other elements at all

USING THE PERIODIC TABLE PROVIDED: (6PTS)

8. Which row has radioactive elements in it? _____
9. Which 2 columns are the most reactive metals? _____
10. Which column has the most reactive nonmetals? _____
11. Which columns are the transition metals? _____
12. Name the metalloids individually. _____

13. Why aren't the lanthanides and actinides included in the table where they belong?

ATOMS INVOLVED	IONIC OR COVALENT? metal+nonmetal=ionic nonmetal+nonmetal=covalent	DRAW	FORMULA
Sodium + Phosphorus			
Silicon + 2 Oxygen			
Calcium + Sulfur			
Carbon + 4 Chlorine			