

Vocabulary: - see notes for definitions

Matter	Alkali Metals
Pure Substance	Alkaline-Earth Metals
Element	Halogens
Compound	Noble Gases
Mixture	Transition Metals
Homogeneous	Groups
Heterogeneous	Periods
Physical Property	Ionic Compound
Chemical Property	Anion
Physical Change	Cation
Chemical Change	Covalent Compound
Bohr Diagram	Law of Conservation of Mass/Matter
Lewis Diagram	Acid
Metals	Base
Non-Metals	Indicator

1. Identify each of the following substances as an element, compound, homogeneous mixture or heterogeneous mixture:

- Kool-Aid drink *homogeneous*
- Mixed salad *heterogeneous*
- Salt NaCl \rightarrow *compound*
- Aluminum Foil \rightarrow *element*

2. List 2 physical properties of milk.

- white
- liquid

3. Is the following information statement a chemical or physical property?

Bubbles of gas are formed when the metal zinc and reacts with hydrochloric acid.

Chemical.

4. What are four clues that a chemical change has occurred?

- color change
- heat/light is given off
- a precipitate is formed
- formation of gas

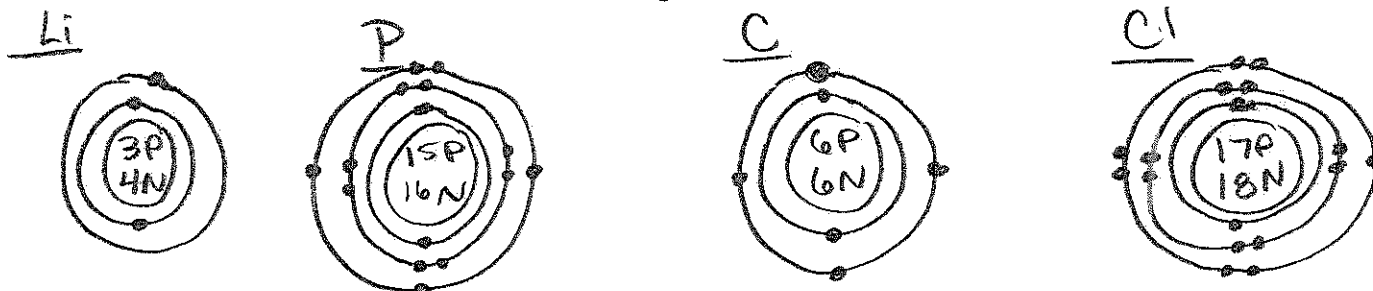
5. Identify the following as either a physical or chemical change:

- A glass jar is broken *Physical*
- An egg is fried *Chemical*
- A piece of paper is burned *Chemical*
- Water is frozen *Physical*

6. Fill in the following table:

	Location in the Atom	Charge	How do you calculate the number in an atom?
Proton	Nucleus	positive	= atomic #
Electron	outside the Nucleus	negative	= atomic #
Neutron	Nucleus	no charge	= mass # - atomic #

7. Draw the Bohr Rutherford for the following elements: Li, P, C, Cl



8. Draw the Lewis dot diagram for the following: He, O, Na, Kr



9. Use the periodic table to answer the following questions about calcium.

a. In what period is it located?

4

b. In what group is it located?

2

c. What is its atomic number?

20

d. What is its atomic mass?

40

10. Is Silicon a metal, non-metal or metalloid?

metalloid

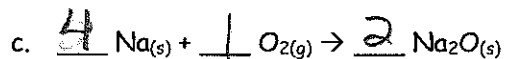
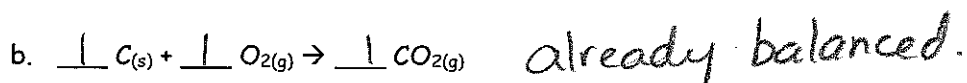
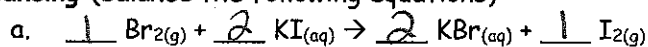
11. Name two properties of metals.

- conduct electricity/heat
 - malleable

12. Naming (fill in the following chart) - First determine whether the compound is ionic or covalent

Name	Formula
Sodium bromide	NaBr
lithium phosphate $\text{Li}^{+1} \text{PO}_4^{3-}$	Li_3PO_4
magnesium iodide	MgI_2
calcium carbonate $\text{Ca}^{2+} \text{CO}_3^{2-}$ same charge so they cancel.	CaCO_3
calcium nitrate	$\text{Ca}(\text{NO}_3)_2$
silver iodide $\text{Ag}^{+1} \text{I}^{-1}$	AgI
iron (III) chloride	FeCl_3
aluminum bromide $\text{Al}^{3+} \text{Br}^{-1}$	AlBr_3
potassium sulfate	K_2SO_4
phosphorus trichloride $\text{P} \begin{smallmatrix} \text{trichloride} \\ \hline 3 \end{smallmatrix}$	PCl_3
carbon tetrabromide	CBr_4
dinitrogen pentoxide $\text{d} \begin{smallmatrix} \text{nitrogen} \\ \hline 2 \end{smallmatrix} \text{p} \begin{smallmatrix} \text{entoxide} \\ \hline 5 \end{smallmatrix}$	N_2O_5
tin (IV) sulfide	SnS_2
lead (II) oxide $\text{Pb}^{2+} \text{O}^{2-}$	PbO

13. Balancing (balance the following equations)



14. Name 3 characteristics of acids and three characteristics of bases.

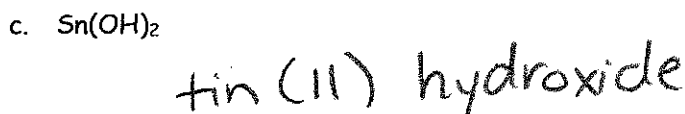
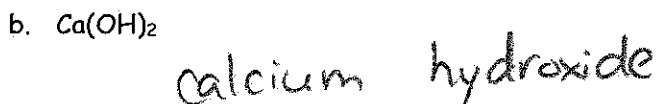
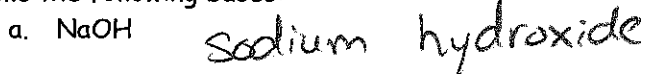
Acids

- turn blue litmus paper red
- taste sour
- pH less than 7

Bases

- turn red litmus paper blue
- taste bitter
- pH greater than 7

15. Name the following bases:



16. Name the following acids:

