

Review – Names, Formulas, Equations and Balancing Equations

Name: _____

1. Write the name and formula for the following:

- a) magnesium and chlorine _____
- b) sodium and bromine _____
- c) magnesium and oxygen _____
- d) aluminum and phosphorus _____
- e) aluminum and sulfur _____

2. Are the compounds created in question 1 ionic or molecular and how do you know?

3. For each of the following ionic compounds write the name:

- a) CuCl _____
- b) FeI_2 _____
- c) CuCO_3 _____
- d) FeSO_4 _____

4. For each of the following ionic compounds write the formula:

- a) tin (IV) oxide _____
- b) lead (II) bromide _____
- c) tin (IV) phosphate _____
- d) lead (II) nitrate _____

5. For each of the following molecular compounds give the name:

- a) SCl_2 _____
- b) CCl_4 _____
- c) CS_2 _____
- d) NO_2 _____

6. Write a formula for each of the following molecular compounds:

a) nitrogen trioxide _____

b) sulfur trioxide _____

c) phosphorus trichloride _____

d) carbon tetra bromide _____

7. Write a balanced formula equation for the following:

a) carbon monoxide + oxygen \rightarrow carbon dioxide

b) chlorine gas + potassium bromide \rightarrow bromine gas + potassium chloride
(Hint: halogens are diatomic gases)

8. Balance the following equations:

a) $\text{Ca} + \text{HBr} \rightarrow \text{CaBr}_2 + \text{H}_2$

b) $\text{Al} + \text{O}_2 \rightarrow \text{Al}_2\text{O}_3$

c) $\text{KNO}_3 + \text{HBr} \rightarrow \text{KBr} + \text{HNO}_3$

d) $\text{Ba} + \text{H}_3\text{PO}_4 \rightarrow \text{Ba}_3(\text{PO}_4)_2 + \text{H}_2$

e) $\text{CaCl}_2 + \text{Al}_2(\text{SO}_4)_3 \rightarrow \text{CaSO}_4 + \text{AlCl}_3$

f) $\text{C}_3\text{H}_8 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$

9. Draw a Bohr-Rutherford diagram for each:

a) Mg^{+2}

b) B

Naming Compounds Review

Remember you must first identify the compound as ionic, polyatomic or molecular before you decide how to name it.

- | | | | |
|----------------------------|-------|----------------------------|-------|
| 1. PbO_2 | _____ | 2. CS_2 | _____ |
| 3. NaNO_3 | _____ | 4. Ca(OH)_2 | _____ |
| 5. SnI_4 | _____ | 6. CaF_2 | _____ |
| 7. K_2CO_3 | _____ | 8. PBr_3 | _____ |
| 9. ClO_2 | _____ | 10. NH_4Cl | _____ |
| 11. MgSO_4 | _____ | 12. NaCl | _____ |
| 13. H_2O_2 | _____ | 14. AuCl_3 | _____ |
| 15. AlPO_4 | _____ | | |

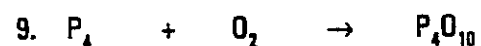
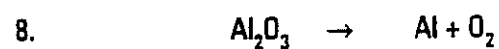
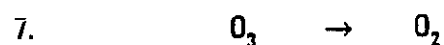
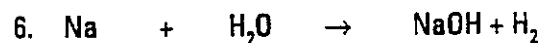
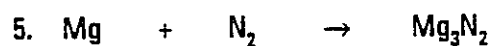
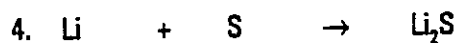
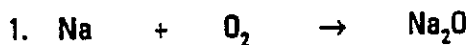
Formulas from Names Review

Remember you need to identify the substance as ionic, polyatomic or molecular before you can name it properly.

- | | |
|-----------------------------|-------|
| 1. Potassium Iodide | _____ |
| 2. Silicon Dioxide | _____ |
| 3. Carbon Tetrachloride | _____ |
| 4. Lithium Oxide | _____ |
| 5. Tin (II) Nitride | _____ |
| 6. Dinitrogen Oxide | _____ |
| 7. Tin (IV) Oxide | _____ |
| 8. Potassium Sulphite | _____ |
| 9. Iron(II) Phosphate | _____ |
| 10. Diphosphorus Pentaoxide | _____ |
| 11. Lead (IV) Hydroxide | _____ |
| 12. Barium Iodide | _____ |

Balancing Equations Worksheet

A. Balance the following equations.



B. Write and balance the following word equations.

1. iron + oxygen \rightarrow iron(III) oxide

2. nitrogen + hydrogen \rightarrow ammonia (NH_3)

3. barium chloride + magnesium sulfate \rightarrow barium sulfate + magnesium chloride

NAMING OF NON-BINARY COMPOUNDS

Name _____

An ionic compound that contains more than two elements must contain a polyatomic ion. Name the following compounds.

1. NaNO_3 _____
2. Ca(OH)_2 _____
3. K_2CO_3 _____
4. NH_4Cl _____
5. MgSO_4 _____
6. AlPO_4 _____
7. $(\text{NH}_4)_2\text{SO}_4$ _____
8. Na_3PO_4 _____
9. CuSO_4 _____
10. NH_4OH _____
11. Li_2SO_3 _____
12. $\text{Mg(NO}_3)_2$ _____
13. Al(OH)_3 _____
14. $(\text{NH}_4)_3\text{PO}_4$ _____
15. KOH _____
16. $\text{Ca(NO}_3)_2$ _____
17. K_2SO_4 _____
18. Pb(OH)_2 _____
19. NaCl _____
20. CuCO_3 _____

Theory Review for Chemistry Test

1.
 - a) What is the difference between a chemical property and a physical property?
 - b) State a physical property of this piece of paper.
 - c) State a chemical property of this piece of paper.

2. State the 5 signs of chemical change.

3. Write the following in standard atomic notation:
 - (a) Nitrogen

 - (b) Aluminum

 - (c) Sulfur

4.
 - (a) State the characteristics of metals.

 - (b) State the characteristics of non-metals.

5. State the location on the periodic table and give an example of:
 - (a) the alkali metals

 - (b) the halogens

 - (c) the noble gases