

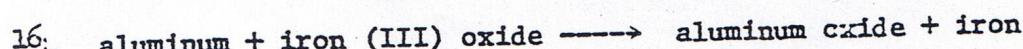
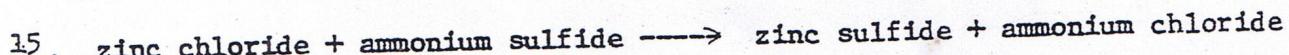
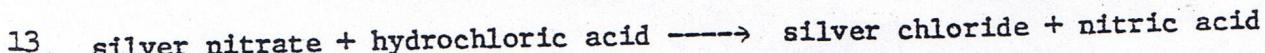
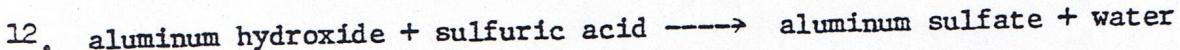
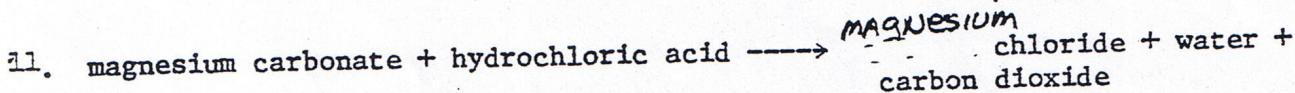
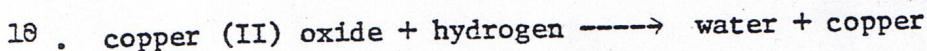
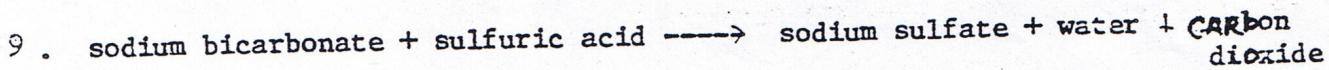
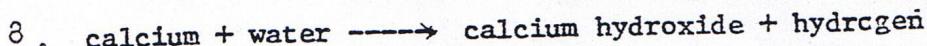
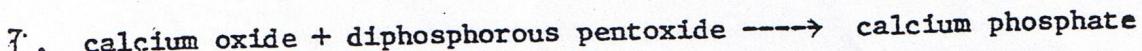
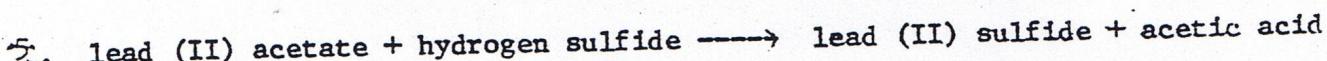
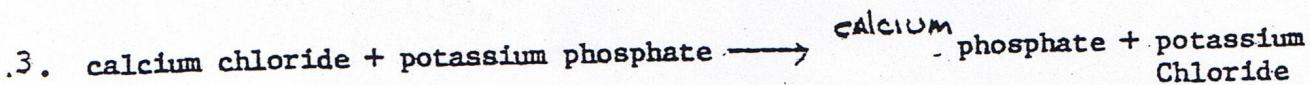
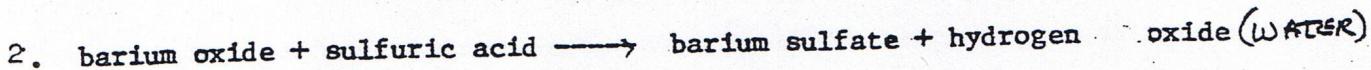
Practise Worksheet - Chemical Equations

DIRECTIONS: In the space below each of the following word equations write the chemical formulas and adjust the coefficients of each in accordance with the law of conservation of mass.

1. sodium + chlorine \longrightarrow sodium chloride
2. carbon + oxygen \longrightarrow carbon dioxide
3. hydrogen + nitrogen \longrightarrow ammonia
4. iron + oxygen \longrightarrow iron(III) oxide, Fe_2O_3
5. silver nitrate + sodium chloride \longrightarrow silver chloride + sodium nitrate
6. iron + copper(II) sulfate \longrightarrow iron(II) sulfate + copper
7. Copper + silver nitrate \longrightarrow copper(II) nitrate + silver
8. aluminum + copper(II) nitrate \longrightarrow aluminum nitrate + copper
9. iron + hydrochloric acid \longrightarrow iron(II) chloride + hydrogen
10. silver + nitric acid \longrightarrow nitrogen dioxide + water + silver nitrate
11. calcium carbonate + sodium chloride \longrightarrow sodium carbonate + calcium chloride
12. magnesium + hydrochloric acid \longrightarrow magnesium chloride + hydrogen
13. ammonia + oxygen \longrightarrow Nitrogen + water
14. C_4H_4 methane + oxygen \longrightarrow carbon dioxide + water
15. octane, C_8H_{18} + oxygen \longrightarrow carbon dioxide + water
16. potassium chlorate \longrightarrow potassium chloride + oxygen
17. calcium carbonate \longrightarrow calcium oxide + carbon dioxide

Practise Worksheet 2 - Chemical Equations

DIRECTIONS: In the space below each of the following word equations write the chemical formulas and adjust the coefficients of each in accordance with the law of conservation of mass.



MANCHESTER REGIONAL HIGH SCHOOL
EQUATIONS WORKSHEET III

DIRECTIONS: Suggest products for each of the following reactions. Write formulas and balance each equation.

1. Zinc Chlorate + Aluminum Nitrate
2. Sodium Iodate + Ammonium Phosphate
3. Potassium Chromate + Lead (II) Nitrate
4. Nickel (II) Carbonate + Bismuth(III) Fluoride
5. Iron (III) Bromate + Silver Nitrate
6. Antimony (III) Sulfate + Barium Hydroxide
7. Lead (IV) Acetate + Sodium Carbonate
8. Calcium Sulfate + Tin (IV) Oxalate
9. Lithium Arsenate + Mercury (I) Chromate
10. Aluminum Fluoride + Lithium Acetate
11. Tin (II) Nitrate + Magnesium Chlorate
12. Copper (II) Sulfate + Potassium Hydroxide
13. Iron (II) Chromate + Ammonium Phosphate
14. Arsenic (III) Nitrate + Copper (I) Oxalate
15. Ammonium Hydroxide + Mercury (II) Fluoride
16. Strontium Bisulfate + Rubidium Monohydrogen Phosphate
17. Manganese (II) Dihydrogen Phosphate + Chromium (III) BiCarbonate

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Equation Worksheet 4

DIRECTIONS: Complete and balance the following.

1. Barium Fluorite + Sodium Acetate
2. Mercury (I) Nitrite + Ammonium Chloride
3. Silver Perphosphate + Potassium Arsenite
4. Lithium Hypochlorite + Magnesium Periodate
5. Lead (II) Sulfite + Mercury (II) Chlorite
6. Sodium Sulfide + Copper (I) Chromate
7. Nickel (II) Hypoiodite + Aluminum Oxalate
8. Barium Hydroxide + Arsenic(III) Sulfite
9. Lithium Phosphite + Zinc Hypochlorite
10. Antimony (V) Carbonate + Copper(II) Perbromate
11. Iron (II) Bromide + Magnesium Acetate
12. Zinc Nitrite + Bismuth (III) Iodide
13. Sodium Chloride + Lithium Sulfide
14. Lead(II) Fluoride + Potassium DiChromate
15. Manganese (II) Bioxalate + Rubidium Bisulfite
16. Radium Bisulfate + Strontium Bicarbonate
17. Cesium Hydroxide + Beryllium Bisulfide

Practise Worksheet 5 - Chemical Equations

DIRECTIONS: In the spaces below give chemical formulas as required and balance the resulting equation.

1. zinc + sulfur \rightarrow zinc sulfide
2. calcium oxide + water \rightarrow calcium hydroxide
3. magnesium bromide + chlorine \rightarrow magnesium chloride + bromine
4. sodium fluoride + sulfuric acid \rightarrow sodium sulfate + hydrogen fluoride
5. aluminum + iron(III) oxide \rightarrow aluminum oxide + iron
6. ammonium nitrite \rightarrow nitrogen(g) + water
7. ammonia + oxygen \rightarrow nitric acid + water
8. zinc + lead(II) acetate \rightarrow zinc acetate + lead
9. calcium iodide + bromine \rightarrow calcium bromide + iodine
10. barium carbonate \rightarrow barium chloride + oxygen
11. ammonium carbonate \rightarrow ammonia + water + carbon dioxide
12. aluminum sulfate + calcium hydroxide \rightarrow aluminum hydroxide + calcium sulfate
13. alcohol, $(C_2H_5OH,)$ + oxygen \rightarrow carbon dioxide + water
14. calcium carbonate \rightarrow calcium oxide + carbon dioxide
15. hydrochloric acid + sodium carbonate \rightarrow sodium chloride + water + carbon diox.
16. carbon dioxide + calcium hydroxide \rightarrow calcium carbonate + water
17. iron(III) oxide + carbon monoxide \rightarrow iron + carbon dioxide
18. hydrochloric acid + copper(II) oxide \rightarrow copper(II) chloride + water

Balance each of the following reactions after predicting the product

1. copper plus silver nitrate (replacement; copper (II) is formed)
2. magnesium plus oxygen (synthesis)
3. hydrochloric acid plus silver nitrate (double replacement)
4. magnesium plus hydrochloric acid (replacement)
5. zinc plus hydrochloric acid (replacement)
6. iron plus oxygen (synthesis; iron (III) is formed)
7. iron plus sulfur (synthesis; iron (II) is formed)
8. calcium hydroxide plus sulfuric acid (H_2SO_4) (double replacement)
9. zinc plus sulfur (synthesis)
10. magnesium plus nitrogen (synthesis)

Substitute symbols for names and balance each of the following equations.

1. copper (II) carbonate decomposes to copper (II) oxide and carbon dioxide gas
2. sodium reacts with water to produce sodium hydroxide and hydrogen gas
3. ammonium nitrite decomposes to nitrogen gas and water
4. copper combines with sulfur to form copper (I) sulfide
5. potassium displaces hydrogen gas from water, with potassium hydroxide being formed as the other product
6. calcium carbonate reacts with hydrochloric acid to produce calcium chloride, water and carbon dioxide gas
7. ammonium nitrate decomposes to water and nitrogen (I) oxide
8. chromium displaces hydrogen from hydrochloric acid, with chromium (II) chloride as the other product
9. barium hydroxide reacts with carbon dioxide to form barium carbonate and water.