Humza Khakhen

SCH3U: Chemistry, Grade 11, University Level

Unit 2: Chemical Reactions

Activity 2: Matter and Chemical Reactions

Balancing Equations Worksheet

Note - sections will expand as necessary.

Section A - Given the description of the reaction, write the word equation.

1. Calcium hydroxide is produced when calcium oxide is mixed with water.

collium oxide + dihydrogen monoxide > calcium hydroxide

2. The heating of sodium chlorate produces sodium chloride and oxygen gas.

sodium chlorate & sodium chloride + oxygen gas

3. Zinc reacts with cupric sulphate to produce zinc sulphate and copper

Zinc + copper(11) sulphate -> Zinc sulphate + copper

4. Sodium nitrate reacts with ammonium chloride to produce sodium chloride and ammonium nitrate

\$0 dium nitrate + amounium chloride -> sodium chloride + amnonium hitrate

 Magnesium carbonate decomposes to produce magnesium oxide and carbon dioxide

magnesium parbonate -> magnesium oxide + carpon dioxide

Section B - Given the word equation, write the skeletal equation.

6. potassium oxide + water → potassium hydroxide

7. iron + copper (II) sulphate → .copper + iron (II) sulphate

8. lithium carbonate + barium chloride → lithium chloride + barium carbonate

Li2CO3 + BaCl2 > LICI + BaCO3

9. calcium oxide \rightarrow calcium + oxygen gas

CaO Ca + O₂

10. calcium sulphate + lithium fluoride \rightarrow calcium fluoride + lithium sulphate $CaSO_4$ + $LiF \rightarrow CaF_2$ + Li_2SO_4 Section C- Balance the following skeletal equations:

11. $2AsCl_3 + 3H_2S \rightarrow As_2S_3 + 6HCI$

- 12. $\& CaCO_3 \rightarrow CaO + CO_2$
- 13. $Fe_3O_4 + 8H_2 \rightarrow 3Fe + 4H_2O$
- 14. ${}^{\circ}_{3}$ H₂SO₃ + ${}^{\circ}_{2}$ Al(OH)₃ \rightarrow Al₂(SO₃)₃ + ${}^{\circ}_{6}$ H₂O
- 15. $C_3H_4 + {}^{\downarrow}O_2 \rightarrow 3CO_2 + 2H_2O$