**Chemical Reactions Study Guide**

**USE A SEPARATE SHEET TO SHOW WORK IF NECESSARY.**

**Determine type, predict products, & balance:**

1. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_S + \_\_Zn 🡪
2. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_Cl2 + \_\_Al 🡪
3. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_H2O 🡪 \_\_H2 +\_\_O2
4. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_MgCO3 🡪
5. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_C2H8 + \_\_O2 🡪
6. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_Sr + \_\_H2SO4 🡪
7. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_Ca(OH)2 🡪 \_\_Ca + \_\_OH
8. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_BaClO3 🡪 \_\_Ba + \_\_ClO3
9. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_Cl2 + \_\_RbBr 🡪
10. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_HCl + \_\_NaOH 🡪
11. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_F2 + HCl 🡪
12. Type: \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_H3PO4 + Mg(OH)2 🡪

**Balance these equations:**

1. \_\_\_ XeF2 + \_\_\_ H2O 🡪 \_\_\_ Xe + \_\_\_ HF + \_\_\_O2
2. \_\_\_ CH4 + \_\_\_ O2 🡪 \_\_\_ CO2 + \_\_\_ H2O
3. \_\_\_ Ca3P2 + \_\_\_ H2O 🡪 \_\_\_ H3P + \_\_\_ Ca(OH)2
4. \_\_\_ NH4 + \_\_\_ Cl2 🡪 \_\_\_ NCl3 + \_\_\_ HCl

**Find the balanced net ionic equation. Identify the precipitate and spectator ions.**

1. HCl (aq) + Ba(OH)2 (aq) 🡪 BaCl2 (aq) + H2O (l)

Net Eqn: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precipitate: \_\_\_\_\_\_\_\_\_\_\_ Spectator ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Ba(OH)2 (aq) + Na3PO4 (aq) 🡪

Net Eqn: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precipitate: \_\_\_\_\_\_\_\_\_\_\_ Spectator ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. AgNO3 (aq) + CuSO4 (aq) 🡪

Net Eqn: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precipitate: \_\_\_\_\_\_\_\_\_\_\_ Spectator ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. CuCl2 (aq) + K2CO3 (aq) 🡪

Net Eqn: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precipitate: \_\_\_\_\_\_\_\_\_\_\_ Spectator ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. CoI2 (aq) + AgF (aq) 🡪

Net Eqn: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Precipitate: \_\_\_\_\_\_\_\_\_\_\_\_ Spectator ions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_