**Classwork: - Writing Chemical Equations**

**Name: Period: 1 2**

**Directions: Write the skeleton equation for each reaction.**

1. Solid sulfur reacts with oxygen gas to produce sulfur trioxide gas.
2. Zinc metal reacts with sulfuric acid solution to produce a solution of zinc (II) sulfate and hydrogen gas.
3. Charcoal (carbon) reacts with water to produce carbon monoxide gas and hydrogen gas.
4. Rocket fuel, liquid hydrazine (dinitrogen tetrahydride) reacts with oxygen gas to produce steam and ammonia gas.
5. Aluminum sulfate and calcium nitrate solutions react to produce an aluminum nitrate solution and a precipitate of calcium sulfate
6. Liquid octane is burned in the presence of oxygen gas to produce carbon dioxide gas and water vapor.
7. Lithium metal is burned in air (oxygen) to produce solid lithium oxide.
8. A solution of hydrogen peroxide (H2O2) is catalytically decomposed into water and oxygen gas.
9. Solutions of manganese (II) sulfate and ammonium sulfide are mixed to produce ammonium sulfate solution and manganese (II) sulfide precipitate.
10. In photosynthesis, carbon dioxide gas and water react in the presence of sunlight to produce liquid glucose (C6H12O6), which the plant uses for fuel and oxygen gas.
11. The fluoride in many toothpastes is tin (II) fluoride, a solid produced by the reaction of solid tin with gaseous hydrofluoric acid.
12. Glass is often etched to produce a design. In this process, the calcium silicate solid (Ca2SiO4) found in the glass reacts with a solution of hydrofluoric acid to produce a solution of calcium fluoride, silicon tetrafluoride gas, and liquid water.