

Types of Chemical Reactions

Purpose - To complete a number of reactions and determine the type of reaction for each.

Procedure - You are required to record your observations for the reactants (initial observations) and the products (final observations).

- Reactions** -
- 1.) Obtain **approximately** 10. mL of copper (II) chloride in a small beaker. Add a small sample of Aluminum foil. Note the reaction observed.
 - 2.) Place **approximately** 3.0 mL of sodium carbonate in a beaker. From another beaker, add the same amount of calcium chloride. Note the reaction.
 3. a.) Place a small sample ($\frac{1}{3}$ test tube) of hydrogen peroxide (H_2O_2) in a test tube. Note any visible bubbles. To speed up the reaction add a ***small sample*** of MnO_2 . Note the reaction.
b.) Add a ***glowing**** splint to the gas produced in reaction 3a.). Record observations.
*glowing splints are used to test gases for oxygen. If the gas relites the splint the gas is **oxygen.***
 - 4.) To a clean test tube add a small piece of zinc. To the test tube add approximately 5.0 mL of Hydrochloric acid (HCl). Record observations.
 - 5.) Add a ***burning**** splint to the gas produced in reaction 6. Record observations. *burning splints are used to test gases for hydrogen. If the gas explodes, the gas is **Hydrogen.***
 - 6.) Observe the electrolysis apparatus and record what you see.

Data and Observations - Design a data table to include reactants, initial observations and final observations.

Don't forget a title for the data table that describes the information in the table!!!

Post Lab Questions

- 1.) How do you know a reaction occurred in each of the reactions?
- 2.) The substance MnO_2 speeds up a reaction and is called a catalyst. Look up a catalyst in your textbook and explain what a catalyst is?
- 3.) Did the MnO_2 appear to be consumed (used up) in the reaction?

4.) What was the probable identity of the precipitate (solid that formed in the liquid) in reaction 2?

Conclusion - Write a balanced chemical equation for each of the reactions (#1-6) observed, and name each reaction type.