Name(s) _____

Chemical Reaction Identification Lab

Procedure #1

1.) Add about 5 ml (2-3 dropperfuls) of **3 M Hydrochloric Acid (HCl)** to a test tube. CAUTION: HANDLE ACID WITH CARE AND AVOID SKIN AND EYE CONTACT. Keep test tube opening away from your body.

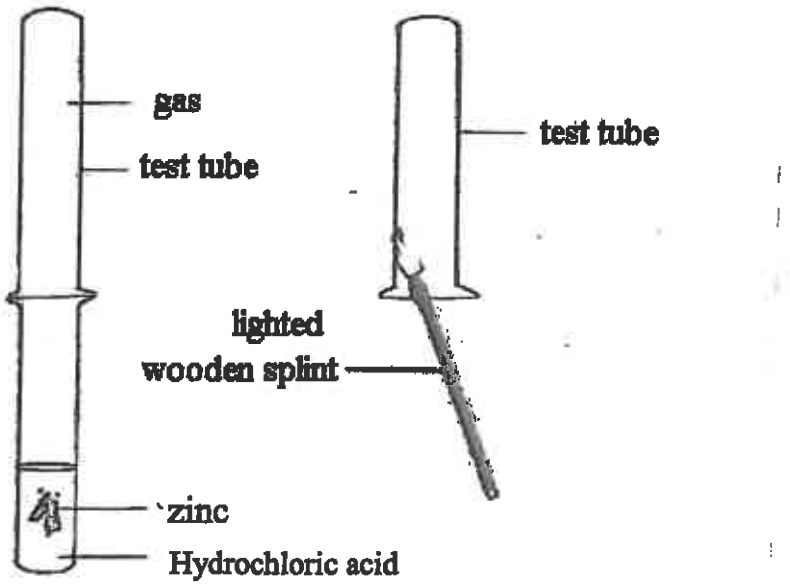
2.) Carefully drop a small piece of **Zinc metal (Zn)** into the acid in the test tube.

3.) Using a test tube holder, invert a second test tube over the mouth of the first. Feel the temperature of the test tube while the reaction is taking place.

4.) Remove the inverted tube after about 45 seconds (keep the open end pointed down).

5.) Light and insert a burning wood splint into the mouth of the inverted tube.

IMPORTANT SAFETY NOTE: Move the inverted test tube at least two feet from the test tube containing the bubbling solution.



Procedure #2

1.) Add about 5 mL (2-3 dropperfuls) of **.5 M Copper (II) Chloride (CuCl2)** solution into a test tube.

2.) Add a piece of **Zinc (Zn)** metal to the test tube and observe the resulting reaction.

3.) Let sit and every 3-5 minutes, gently swirl the test tube and observe.

Procedure #3

1.) Carefully light your butane torch.

2.) Locate a pie tin and a piece of **Magnesium Metal (Mg)** from the supply cart.

3.) Using some metal crucible tongs, pickup and hold the Magnesium in the burner flame until the magnesium starts to burn move the burning Magnesium over the pie tin. *IMPORTANT - DO NOT LOOK DIRECTLY AT THE FLAME WHICH PRODUCES UV LIGHT AND CAN DAMAGE YOUR EYES.*

4.) When the ribbon stops burning, put the remains in the evaporating dish.

Procedure #4

1.) Add about 5 ml (2–3 dropperfuls) of **.5 M Copper (II) Chloride (CuCl2)** solution into a small test tube.

2.) Slowly add one drop at a time **.5 M Sodium Phosphate (Na3PO4)** solution to the test tube containing the Copper (II) Chloride.

Procedure #5

1.) Add about 5 mL (2–3 dropperfuls) **Potassium Iodide (KI)** to a clean test tube. Note the appearance of the solution.

2.) Slowly add one drop at a time **Lead (II) Nitrate (Pb(NO3)2)** to the test tube.

Procedure #6

1.) Add 3 ml (2 dropperfuls) of **3% Hydrogen Peroxide (H2O2)** to a test tube.

2.) Add a small scoop (about the size of half of a jellybean) of **Manganese (IV) Oxide (MnO2)** to the test tube.

3.) Feel the temperature of the test tube during the reaction.

4.) Test for the formation of a gas. As the reaction occurs, and ***AWAY*** from the test tube, light a wood splint and allow it to burn freely for about 5 seconds. IMPORTANT - **Blow out the flame first** and place the glowing splint halfway down into the test tube. Record your results.

Procedure #7

1.) Add 5 ml (2-3 dropperfuls) of **.1M Copper (II) Sulfate Solution (CuSO4)** to a test tube.

2.) Add approximately 2 grams of **Iron (Fe) filings** (about the size of a jellybean) to the test tube.

3.) Gently swirl the test tube until the reaction is complete. Then, using a *funnel and filter paper, filter the solution into* a new test tube.

Procedure #8

1.) Add 5 ml (2-3 dropperfuls) of **.1M Cobalt (II) Chloride (CoCl2)** to a clean test tube and 5-10 drops on an observation glass plate.

2.) Slowly add (One drop at a time) **.5M Sodium Hydroxide (NaOH)** to the test tube with Cobalt (II) Chloride, also add one drop at a time to the glass observation plate with the CcCl2 on it.

Procedure #9

1.) Add 5 ml (2-3 dropperfuls) of **.5M Sodium Carbonate (Na2CO3) Solution** to a clean test tube.

2.) Slowly add one drop at a time **.5M Copper (II) Sulfate (CuSO4) Solution** to the test tube with Na2CO3.

3.) Gently swirl the test tube until the reaction is complete. Then, using a *funnel and filter paper, filter the solution into* a new test tube.

Procedure #10

1.) Get a half of a petri dish from the supply cart.

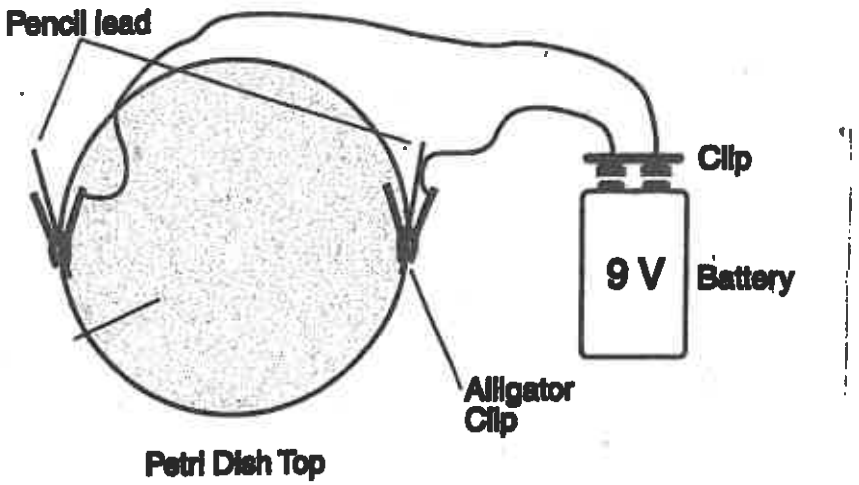
2.) Pour just enough **Sodium Chloride (NaCl) / Universal Indicator Solution** into the petri dish section to cover the bottom of the dish.

3.) Get two pieces of pencil **Lead (Pb)** from the supply cart carefully without breaking them, along with a *9V battery and two wires with alligator clips*.

4.) Attached the pencil lead to opposite sides of the petri dish with the alligator clips. Make sure the tip of *each lead is submerged in the solution and the alligator clips remain out of the solution!*

5.) Clip and attach the alligator wires to the 9v battery terminals to start the reaction.

6.) Let the reaction occur for approximately 5 minutes. If you have it setup properly you should see a changing of colors in the solution.



Lab #	Chemical Reaction Equation	Reaction Type
1		
2		
3		
4		
5		
6		
7		
8		
9		
10	2 H2O -> O2 + 4 H2	