

In this lab you will be investigating more chemical reactions.

Procedure:

1. You will be assigned to a workstation at which you will begin the lab
2. Follow the instructions at the lab station.
3. When finished, clean the equipment you used, empty all test tubes and beakers into the trough next to the sink and leave the lab station as you found it.

Caution: Make sure you soak any lighted wood splints in water before placing them in the trough next to the sink.

4. Remain at the station until you are directed to move on.
5. At Ms. Neiman's direction, move to the next lab station (you will have approximately 6 minutes at each lab).
6. Repeat steps 2-5.

Questions:

1. Write a balanced molecular equation for all 8 reactions.
2. Write a balanced net ionic equation for all precipitation and acid base reactions.

For each of the following situations, use the information to determine the identity of the gas produced, write a balanced equation, and classify each reaction.

3. When potassium bromate (KBrO_3) is heated, it decomposes into potassium bromide and a gas that supports the combustion of a glowing splint.
4. Sodium metal reacts violently with water to produce sodium hydroxide (NaOH) and a gas that pops in the presence of a burning splint.

Reactions Lab

Name: _____

Data :

Workstation 1

Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 2

Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 3

Chemicals used	
Observations	
Type of reaction	
Equation	
Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 4

Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 5

Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 6

Chemicals used	
Observations	
Type of reaction	
Equation	
Chemicals used	
Observations	
Type of reaction	
Equation	

Workstation 1 HCl and Mg

1. Add 5-8 ml of **HCl** to a test tube in a test tube rack.
2. Drop a 2-cm piece of **Mg** ribbon into the test tube.
3. Place your thumb over the mouth of the test tube.
4. When the reaction appears to have ended, light a wood splint and quickly test the collected gas for flammability by holding the burning splint near the mouth of the test tube when you remove your thumb.
5. Record your observations.
6. Clean your workstation. Leave it as you found it.

Workstation 2 Metals and O₂Cu and O₂

1. Light the Bunsen burner.
2. Hold a piece of copper (3 cm) with a pair of tongs.
3. Place the copper in the flame.
4. Record your observations.
5. Clean your workstation. Leave it as you found it.

Mg and O₂

1. Light the Bunsen burner.
2. Hold a piece of magnesium (3cm) with a pair of tongs.
CAUTION: DO NOT LOOK AT THE BURNING RIBBON. THE BRIGHT LIGHT IS CAPABLE OF HURTING YOUR EYES
3. Place the magnesium in the flame.
4. Record your observations.
5. Clean your workstation. Leave it as you found it.

Workstation 3 H₂O₂

1. Add 10 ml H₂O₂ to a test tube.
2. Add a drop of KMnO₄ to the test tube.
3. As the reaction occurs, light a wood splint and allow it to burn freely for 5 seconds.
4. Blow out the flame and place the glowing splint into the test tube
5. Record your observations.
6. Hint: The KMnO₄ does not participate in the reaction, it just makes it happen.
7. Clean your workstation. Leave it as you found it.

Workstation 4 $\text{HC}_2\text{H}_3\text{O}_2$ and NaHCO_3

1. Place a small scoop of NaHCO_3 in a test tube.
2. Add 5 ml of $\text{HC}_2\text{H}_3\text{O}_2$ to the test tube.
3. Light a wood splint.
4. Place it in the mouth of the test tube.
5. Record your observations.
6. Clean your workstation. Leave it as you found it.

Workstation 5 Zn and CuSO_4 (aq)

1. Add small piece of zinc to a test tube.
2. Add approximately 5ml of CuSO_4 to the test tube.
3. Observe the reaction for 2-3 minutes.
4. Record your observations.
5. Clean your workstation. Leave it as you found it.

Workstation 6 Reactions with Silver

 AgNO_3 (aq) and CaCl_2 (aq)

1. Combine 5-8 drops of each reactant in a test tube.
2. Observe the reaction for 2-3 minutes
3. Record your observations.
4. Clean your workstation. Leave it as you found it.

 AgNO_3 (aq) and Cu (s)

1. Cut a length of copper the length of your test tube.
2. Place 10 drops of AgNO_3 (aq) in the test tube.
3. Lower your length of copper into the tube.
4. Observe every minute for at least 3 minutes.
5. Record your observations.
6. Clean your workstation. Leave it as you found it.