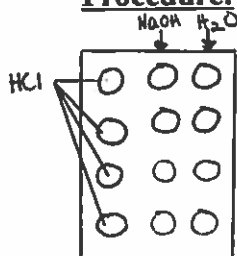


Lab Activity: Properties of Acids and Bases

Purpose: To describe the characteristics of two groups of chemicals known as acids and bases.

Materials: spot plates droppers toothpick litmus paper
 pH paper phenolphthalein bromothymol NaHCO₃
 small pieces of magnesium
Solutions: Hydrochloric acid Sodium hydroxide solution Distilled water

Procedure:



1. Place 10 drops of the acid solution in 4 wells of the first column DOWN
2. Place 10 drops of the base solution in the 4 wells of the next column
3. Place 10 drops of the water in the 4 wells of the next column
4. To the first row ACROSS, add one drop of phenolphthalein. Record the colour
5. To the second row ACROSS, add a tiny portion of baking soda using the toothpick. Look for gas production.
6. To the third row ACROSS, add a tiny piece of magnesium. Look for gas prod.
7. To the fourth row ACROSS, add a tiny piece of litmus paper. Record the colour. Add a tiny piece of pH paper. Record the colour and number of the reading. Add 1 drop of bromothymol blue. Record the colour.

Observations: Note your observations for each of the reactions neatly in the chart below.

	1 Hydrochloric Acid	2 Sodium Hydroxide	3 Water
A: Phenolphthalein			
B: NaHCO ₃	Name the gas.		
C: Magnesium	Name the gas.		
D: i) Litmus Paper			
ii) pH paper			
iii) Bromothymol Blue			

Questions:

1. List the 3 solutions from the lowest pH to the highest pH.

2. What pH is a) neutral? _____; b) acidic? _____; c) basic? _____

3. A) What type of substance produced a gas when it reacted with the baking soda? Magnesium?

B) What gas was released in each case?

4. A) What is an indicator?

B) Complete the following summary chart for the colour of the indicator in each solution type.

Indicator	Acid	Base	Water
litmus			
pH paper			
pheno.			
bromothymol			

5.

A) List any **ADDITIONAL** properties of acids and bases that you did not observe during this lab activity.