

Lab: Cabbage Juice Indicator

Date _____

Last Name _____ First _____ period ____

Red cabbage solution can be used as an acid base indicator. It will turn red in the presence of an acid and blue in the presence of a base. In this lab you will prepare a solution of cabbage juice indicator and use it to test some common household liquids.

Materials:

hot plate w/ screen

red cabbage (half lemon size),

250 ml beaker

plastic testing well dish

five 5oz cups: 1 w/lemon juice, 1 w/vinegar/ 1 w/ baking soda solution (Teacher:prepare by adding 40g baking soda to 1 liter of water) , 1w/ diluted ammonia solution (40 ml ammonia to 1 liter), and 1w/ water (control)

5 droppers

rinse bucket

Procedure: SAFETY : HEAT AND EYE PROTECTION

1. Prepare a solution of cabbage juice indicator.
 - a. Obtain a wedge of red cabbage about the size of a half of a lemon.
 - b. Heat 180 ml of water over a hot plate add the cabbage.
 - c. Bring the solution to a boil. Let boil for 2 minutes
 - d. Turn the heat off and carefully remove the beaker from the hot plate to cool.
2. Add 10 drops of each liquid to 5 separate well dishes.
3. Add 10 drops of cabbage juice indicator to each of the liquids in the wells.
4. Record the color of each solution in the table below.

Data Table: pH of common household liquids

Liquid	Color /w indicator	Litmus test w/red	Litmus test w/blue	Acid or Base
Water				
Lemon juice				
Lime juice				
Baking soda				
Vinegar				
Ammonia				
Sprite				
Hydrochloric acid (HCl)				
Sodium hydroxide (NaOH)				

Analysis:

1. What color will cabbage juice indicator turn if mixed with an acid? With a base?
2. What is an acid?

3. What is a base?

4. What is an acid base indicator?

5. What is the pH scale?

Conclusion:

Write a conclusion paragraph. Describe the liquids that tested as acids and the liquids that tested as bases and how you know they are either an acid or a base. Think of some other common liquids that might be either acids or bases and explain why you think they might be either an acid or a base.