

Date _____ Class _____ Name _____

7 - Using an Acid-Base Indicator

Objectives:

- The student will demonstrate the proper use of a reliable pH indicator by testing several known solutions.
- Students will demonstrate their knowledge of pH by determining the pH of several unknown solutions.
- The students will be able to apply the concept of pH to living situations.

Materials:

- A Test Tube Rack and 10 Test Tubes per group.
- pH paper
- Lemon Juice
- Windex
- Coke
- Salt Water
- Starch solution
- Vinegar
- Orange Juice

Procedure:

- The instructor will have set up 7 test tubes of identified substances and 3 test tubes of unknown substances labeled A, B, and C per group.
- In each named test tube there will be 10 ml of one of the following substances: lemon juice, Windex, coke, salt water, starch solution, vinegar, and orange juice,
- Using a piece of pH paper touch the liquid in one of the test tubes. Now compare the color of the wet paper to the chart below. Record your observations in the data chart below. Continue the same procedure until all the samples have been tested. Make sure you properly dispose of the used pH paper.
- After recording the colors of the 7 known materials in the chart below, follow the same procedure with the 3 unknown solutions.
- Also record these observations in Table 7.1.

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pH Paper Color Chart:

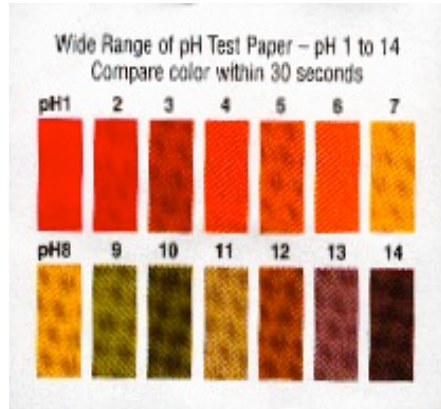


Table 7.1

Material	Lemon Juice	Windex	Soda Pop	Distilled Water	Tap Water	Vinegar	Orange Juice	Unknown A	Unknown B	Unk
Color of pH paper										
Possible pH										

Summary:

1. Name the substances that were acidic.

2. What color(s) is (are) evident if the substance is basic?

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3. How many of the solutions were basic? _____

4. Name them. _____

5. Define pH? _____

6. What color did the distilled water have? _____. What was its pH?

7. Is the pH of all water the same? _____

8. Explain.

9. Why is pH important to all living things?

10. What was the pH of the unknown substances? A _____,
B _____, and C _____.

11. A pond has a pH of 6 and its pH was rechecked after a heavy rain to find it went down to a pH of 4. How many times did its acidity increase? _____.

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12. If one were going to increase the pH of a solution what substance must be added to allow this increase to happen? _____.

13. Explain the function of a buffer in a living system.
