

STUDENT LAB DIRECTIONS

ACTIVITY 4B :

The pH of Common Foods

Name _____

Background Information:

Acidic foods and food ingredients encourage demineralization. By using pH paper, the pH of common foods and food ingredients can be determined. By interpreting the pH, one can determine which substances increase the risk for tooth demineralization.

OBJECTIVES:

- ▶ determine the pH of common foods and food ingredients
- ▶ identify high risk foods which promote demineralization

Materials (students will work in groups of 2 to 4)

12 test tubes per group (50 ml beakers or 28-g paper cups may be used)

1 test tube rack per group

pH paper 1–11 range (plus color chart to read pH paper)

labels or greased pencils

deionized water (distilled water may be substituted)

foods or food ingredients

test tube #

1. tap water
2. deionized water
3. white vinegar (5 percent acetic acid)
4. sodium bicarbonate (baking soda)—a few crystals dissolved in deionized water
5. lemon juice
6. lemon-lime soda
7. cranberry-apple juice
8. milk
9. powdered orange drink
10. clear carbonated drink (Sprite, 7-Up, Mountain Dew)
11. 5 ml honey dissolved in tap water
12. mixture of test tubes 3 and 4

Procedure:

1. Prepare half a test tube of each of the substances listed above.
2. Gently shake each test tube until the mixtures are dissolved.
3. Label each test tube with the substance it contains.
4. To determine the pH of each solution, dip a small piece of pH indicator paper into each liquid sample.
5. Match the color of the pH paper to the chart provided with the pH paper.
6. Record your results in the data table.