

# Compounds From Plants

## Demonstration and Laboratory:

### Dr. Leslie Pierce

## Students' Guide

### Goals

- To learn the chemistry of household chemicals
- To introduce pH indicators

### The Laboratory

In this laboratory, you will compare pH indicators from different plant sources, and test them with ammonia and vinegar, to see how they change.

### Materials for Each Group

- 1/2 head of red cabbage, boiled in water for about 30 minutes (divide into several cups)
- Different colored berries and red fruits (blueberries, blackberries, red cabbage juice...)
- Glass rod
- A well plate or a spot-plate
- 50 ml vinegar
- 50 ml cleaning ammonia
- Pasteur pipettes
- pH strips

### SAFETY

Wear safety goggles at all times in the laboratory.

Handle cleaning detergents and acids with care. They may be harmful.

### Instructions

1. Put small pieces of the same berry or fruit into each well in the well plate. Repeat for different kinds of plants and berries.
2. Crush the fruit pieces with a glass rod.
3. Add several drops of acid into one of the two wells with the same fruit and add base to the other well.

## Compounds From Plants Demonstration and Laboratory: Students' Guide, page 2

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4. Summarize your results in the following table:

Fruit	Color in Acid	Strong or Weak	pH	Color in Base	Strong or Weak	pH
Red Cabbage	Red	Strong		Green	Strong	

5. Can you identify any trends in the table? \_\_\_\_\_

\_\_\_\_\_

6. What conclusions can you extract from your data? \_\_\_\_\_

\_\_\_\_\_

7. What does it mean about the nature of these indicators? \_\_\_\_\_

\_\_\_\_\_

8. What properties would you expect a good indicator to have? \_\_\_\_\_

\_\_\_\_\_

9. Which would you consider to be the best indicator? Explain: \_\_\_\_\_

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