

pH OF HOUSEHOLD CHEMICALS

What is the pH of chemicals commonly found in homes?

Objectives

- Classify household substances as acidic, basic, or neutral.

Materials and Equipment

- Data collection system
- pH sensor
- Beakers (6 or more), 50-mL or 100-mL
- Rinse bottle filled with distilled water
- Various liquid household chemicals (6 or more)
- Paper towels

Safety

Follow these important safety precautions in addition to your regular classroom procedures:

- Wear safety goggles at all times

Procedure

1. Select Sensor Data in SPARKvue.
2. Connect the pH sensor to your device.
3. Make sure only the pH measurement is checked and choose the Digits template.
4. Remove the pH storage solution bottle from the pH sensor. Slide the storage bottle cap towards the sensor box.
5. Rinse the pH probe thoroughly with distilled water. Blot dry.
6. Select Start to begin collecting data.
7. Place enough of a household chemical to be tested into a clean beaker so that the glass bulb on the pH probe is completely submerged.
8. Record the identity of the chemical and qualitative observations of the substance in Table 1. If you are testing more than six household chemicals, continue the table on a separate paper.
9. Place the pH probe in the beaker. Make sure the glass bulb is completely covered. When the reading stabilizes, record the pH value in Table 1.
10. Rinse the pH probe thoroughly with distilled water. Blot dry.
11. Repeat Steps 7 through 10 for all household chemicals to be tested. Stop collecting data after the final substance is tested. Follow your teacher's instructions for waste disposal.
12. After the final substance is tested, rinse the pH probe with distilled water. Return the storage solution bottle to the pH probe and seal the bottle with the cap.

Data Collection

Table 1: pH of various household chemicals

Name of household chemical	Observations	pH	Acid, base, or neutral

Questions and Analysis

1. Classify each household substance as an acid, base, or neutral substance based on its pH. Record your answers in Table 1. Describe how you categorized each substance in the space below.

2. Look for patterns in your results. Which household chemicals are acids?

