

Experiment: Acids, Bases, and the pH Scale

Objective

To identify and measure the pH levels of various household items using both universal indicator and litmus paper.

Materials

- Universal indicator
- Litmus paper (red and blue)
- 10 different household substances
- Universal indicator
- Spotting tile
- pH scale chart

Method

1. Place a small amount of each substance on the spotting tile, recording the substance and the number.
2. Add a few drops of universal indicator.
3. Record the colour.
4. Use the pH scale chart to determine the pH level for each solution, and record the pH value.
5. Next, test each substance with both red and blue litmus paper, and record the observations.

Table of Observations

Substance	Universal Indicator Colour	pH Value	Red Litmus Reaction	Blue Litmus Reaction

Questions

1. Which of the substances are acids? How do you know?
2. Which of the substances are bases? How do you know?
3. Which substance was the most acidic?
4. Which substance was the most basic?
5. Draw a pH line from 0 to 14 and place the substances in order.