

Acid-Base Indicator Lab

Introduction: For this lab we are learning about acids, bases, and the pH scale. An acid is a compound that contains hydrogen and are usually room temperature and taste sour, a base is a compound that can “accept” a positive hydrogen ion and most are solid at room temperature and taste bitter and feel soapy. We can measure these two compounds in a substance by using the pH scale by seeing the concentration of hydrogen ions in that solution.

Research Questions: Do all indicators work in the same way? Are indicators infinitely precise?

Observations: (see other pdf). Vinegar, Orange Juice, and Lemon Juice are all acids. Bleach, Ammonia, and Milk of Magnesium are all bases.

Conclusion: All indicators do not all work the same, some are paper and some are liquids. Some have varying degrees of color changes. Others experience one or two color changes.

Vocabulary:

Acid – A compound that contains hydrogen ions. The higher the concentration of hydrogen ions produced by an acid, the higher its acidity and the lower the pH of the solution.

Base – A compound that can “accept” a positive hydrogen ion. A substance that reacts with acids.

Indicator – Are weak acids or weak bases that show a change of color as the concentration of hydrogen ions changes.

pH – The measure of hydrogen ion concentration. Scale of pH ranges from 0 to 14. The lower the number, the higher concentration of hydrogen ions it has and the more acidic it is.