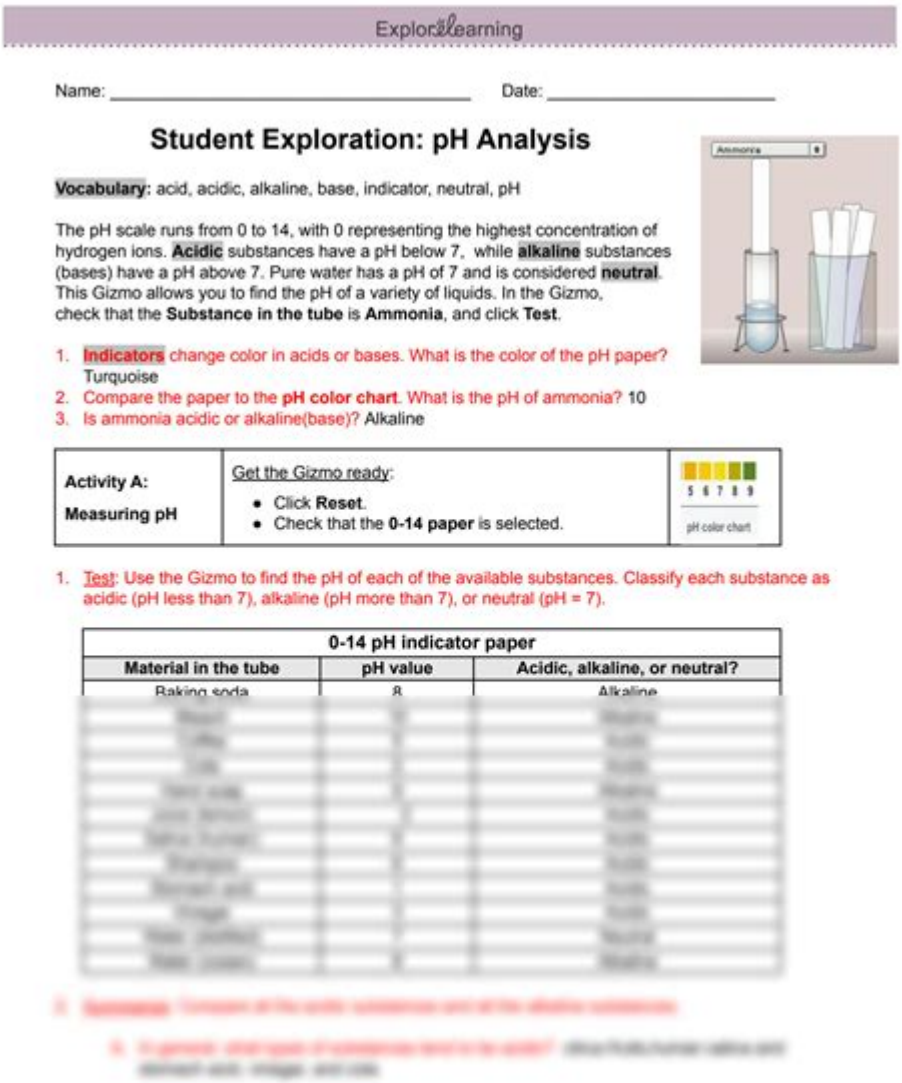
Student Exploration Ph Analysis



Explorelearning

Name: _____ Date: _____

Student Exploration: pH Analysis

Vocabulary: acid, acidic, alkaline, base, indicator, neutral, pH

The pH scale runs from 0 to 14, with 0 representing the highest concentration of hydrogen ions. **Acidic** substances have a pH below 7, while **alkaline** substances (bases) have a pH above 7. Pure water has a pH of 7 and is considered **neutral**. This Gizmo allows you to find the pH of a variety of liquids. In the Gizmo, check that the **Substance in the tube** is **Ammonia**, and click **Test**.

1. **Indicators** change color in acids or bases. What is the color of the pH paper? Turquoise
2. Compare the paper to the **pH color chart**. What is the pH of ammonia? 10
3. Is ammonia acidic or alkaline(base)? Alkaline

Activity A: **Measuring pH**	Get the Gizmo ready: • Click **Reset**. • Check that the **0-14 paper** is selected.	5 6 7 8 9 pH color chart

1. Test: Use the Gizmo to find the pH of each of the available substances. Classify each substance as acidic (pH less than 7), alkaline (pH more than 7), or neutral (pH = 7).

0-14 pH indicator paper		
Material in the tube	**pH value**	**Acidic, alkaline, or neutral?**
Baking soda	8	Alkaline

Student Exploration pH Analysis is an engaging educational tool designed to teach students about the concepts of pH and acidity in a laboratory setting. This exploration provides a hands-on experience that allows students to deepen their understanding of these essential chemical principles. By manipulating variables, measuring pH levels of different substances, and observing the effects of acids and bases, students can develop a practical comprehension of how pH impacts various chemical processes and biological systems.

Understanding pH: The Basics

7 indicates a basic (alkaline) solution

Importance of pH