



Name:

Date:

12-17-21

Student Exploration: pH Analysis

Directions: Follow the instructions to go through the simulation. Respond to the questions and prompts in the orange boxes.

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

Prior Knowledge Questions (Do these BEFORE using the Gizmo.)

1. **Acids** are substances that produce hydrogen ions (H^+) when dissolved in water. Lemon juice is an example of an acid.

A. What does lemon juice taste like?

sour

B. What does it feel like if lemon juice gets in your eye?

painful

2. **Bases** are substances that produce hydroxide ions (OH^-) when dissolved in water. Hand soap is an example of a base.

A. What does soap feel like?

feels like a smooth rock

B. What does soap taste like?

awful, ive actually eaten that stuff

C. What does it feel like if soap gets in your eye?

painful makes me wanna bang my head against the wall

Gizmo Warm-up

The strength of an acid or base is measured on the **pH** scale. The term “pH” is short for “potential of hydrogen.” It is a measure of how many excess H^+ ions there are in a solution. 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**.

The *pH Analysis* 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**. Wait until the animation is finished.



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

blueish

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alkaline