

Name _____

The pH Scale: A Colorful Journey Through Acids and Bases

Open-Ended Response Answer Key

1. One real-world application of the pH scale is in the cosmetics industry. pH levels are carefully controlled in skincare products to ensure they are gentle on the skin. Products with a pH similar to that of the skin are less likely to cause irritation.
2. Scientists studying the impact of ocean acidification on coral reefs would investigate changes in the growth and health of coral colonies. This research is crucial because healthy coral reefs are essential for marine biodiversity and coastal protection.
3. The pH of certain ingredients can significantly affect the taste of food. For example, lemon juice (acidic) can brighten the flavors of dishes, while baking soda (basic) can neutralize excess acidity in tomato sauce.
4. The pH scale is important in household cleaning products because it determines their cleaning abilities. Acidic cleaners are effective at removing mineral deposits and soap scum, while basic cleaners are excellent at cutting through grease and grime. Examples include vinegar-based cleaners (acidic) and ammonia-based cleaners (basic).

