

Name _____

Acids and Bases at Work: Building, Cleaning, and More!

Open-Ended Response Answer Key

1. One environmental issue related to the use of acids or bases in industrial processes is the release of harmful byproducts into the environment, such as acid rain or alkaline waste. This issue can be addressed by implementing strict regulations and waste management practices, as well as developing cleaner technologies that produce fewer harmful byproducts.
2. To achieve a fluffy and light cake, I would use baking powder or baking soda as leavening agents. Baking powder contains both an acid and a base, and when mixed with acidic ingredients like yogurt or lemon juice, it produces carbon dioxide gas, causing the batter to rise. This results in a light and airy texture.
3. Neutralizing a chemical spill involves carefully adding an appropriate acid or base to the spill to counteract the hazardous substance. Safety precautions include wearing protective gear, ensuring proper ventilation, and using the correct neutralizing agent based on the type of chemical involved. The neutralized waste should then be safely disposed of according to regulations.
4. Acids play a role in preserving food by lowering the pH of the food, creating an environment where harmful microorganisms cannot thrive. Examples of acidic foods include pickles and citrus fruits. The acidity not only enhances food safety but also contributes to the unique and tangy flavor of these items.

