

Name _____

In the Middle of It All: The Mystery of Neutral Substances

Open-Ended Response Answer Key

1. A significant deviation from the ideal blood pH of 7.4 can lead to health problems such as metabolic acidosis or alkalosis. This can affect enzyme function, disrupt bodily functions, and lead to symptoms like fatigue, confusion, or even organ damage.
2. To study the impact of water pollution on the pH of a local river, I would regularly collect water samples from various points along the river. I would then use pH meters or indicators to measure the pH of each sample. Over time, I would look for trends or changes in pH values that could indicate pollution levels and their effects.
3. The pH of foods and beverages can significantly impact taste. For example, the acidity in lemon juice can make it taste tangy and refreshing, while a slightly alkaline mineral water might have a smoother, less acidic taste. The balance of acidity and alkalinity can influence our perception of flavor.
4. pH control is critical in various industrial processes to ensure the efficiency and safety of operations. In chemical production, maintaining the correct pH can affect reaction rates and product quality. In wastewater treatment, controlling pH is essential for removing pollutants and protecting the environment.

