Name _____

Safety First: Neutralizing Acid and Base Spills on Skin and Clothing

Open-Ended Response Answer Key

1. Improper handling or delayed response to acid or base spills on the skin can lead to severe burns, scarring, and long-term damage. Quick and appropriate action, including thorough rinsing and neutralization, can prevent these consequences.
2. As a laboratory instructor, I would conduct a practical demonstration using a simulated spill involving a weak acid or base solution. Students would practice rinsing, removing contaminated clothing, and neutralizing the spill with the correct solution. Emphasis would be placed on safety gear and seeking medical attention if needed.
3. When diluted vinegar is used to neutralize a base spill, it reacts with the base to form water and a salt. For example, when vinegar (acetic acid) reacts with sodium hydroxide (a strong base), it produces water and sodium acetate, which are less harmful substances.
4. Safety gear, such as safety goggles, gloves, and lab coats, is vital in preventing accidents and minimizing risks during chemical experiments. For instance, safety goggles protect the eyes from chemical splashes, while gloves shield the skin. Real-life examples can include laboratory incidents where safety gear prevented injuries.