

Name _____

Electric Adventures of Acids and Bases: Can They Conduct?

Short Answer Key

1. Ionization is the process by which substances release ions when dissolved in water. In the case of acids, they release hydrogen ions (H^+), which are charged particles. This ionization enables acids to conduct electricity.
2. An example of a strong acid is hydrochloric acid (HCl), and a strong base is sodium hydroxide ($NaOH$). They are excellent conductors of electricity because they ionize extensively, producing a high concentration of ions in solution.
3. Weak acids and weak bases ionize to a lesser extent in water. They generate fewer ions, resulting in lower electrical conductivity compared to strong acids and bases.
4. Ions act as carriers of electric charge in a solution. When an electric current is applied, these charged particles move, allowing the current to flow. This movement of ions is crucial for electrical conductivity.
5. The electrical conductivity of acids and bases is utilized in various applications, including batteries, electrolysis for metal production, and pH measurements in laboratories and industries. It helps in powering electronic devices and industrial processes.

