

Name _____

Unveiling the Mystery of Ammonification

Open-Ended Response Answer Key

1. Environmental factors such as temperature and moisture can influence the rate of enzymatic activity and microbial metabolism in soil, affecting the rate of organic matter decomposition and thus the rate of ammonification.
2. Earthworms and other soil macrofauna play a crucial role in mixing organic matter into the soil, enhancing microbial activity and accelerating the process of ammonification and nutrient cycling.
3. Excessive use of nitrogen-rich fertilizers can lead to increased rates of ammonification in soil, resulting in elevated levels of ammonium and nitrate, which can leach into groundwater and surface water, contributing to nutrient pollution and ecosystem degradation.
4. Ammonification is interconnected with other biogeochemical cycles such as the carbon and phosphorus cycles, as decomposition of organic matter releases not only nitrogen but also carbon and phosphorus compounds, influencing nutrient availability and ecosystem processes.

