

Name _____

Nitrogen Fixation: Nature's Nitrogen Miracle

Short Answer Key

1. Nitrogen fixation is primarily catalyzed by the enzyme nitrogenase, which converts atmospheric nitrogen gas (N_2) into ammonia (NH_3) or other nitrogen-containing compounds.
2. Symbiotic nitrogen-fixing bacteria benefit from their relationship with plants by receiving carbohydrates and a suitable environment for nitrogen fixation, while providing plants with usable forms of nitrogen for growth.
3. The primary form of nitrogen produced by abiotic nitrogen fixation is nitrate (NO_3^-).
4. Lightning contributes to abiotic nitrogen fixation by providing the energy needed to break the nitrogen triple bond, leading to the formation of nitrogen oxides (NO_x).
5. Nitrogen fixation is crucial for supplying plants and other organisms with usable forms of nitrogen, supporting their growth and contributing to ecosystem functioning.

