

Name _____

Nourishing the Earth: The Impact of the Nitrogen Cycle on Soil Fertility

Short Answer Key

1. Nitrogen fixation is the process of converting atmospheric nitrogen into ammonium by nitrogen-fixing bacteria, which enhances soil fertility by providing a readily available nitrogen source for plants.
2. Nitrification enhances soil fertility by converting ammonium into nitrate, a form of nitrogen that plants can easily absorb and utilize for growth.
3. Denitrification is important in maintaining the balance of nitrogen in soil ecosystems by converting excess nitrate back into nitrogen gas, thereby reducing nitrogen pollution and promoting ecosystem health.
4. Plants assimilate nitrogen obtained from the soil by incorporating it into organic molecules, such as proteins, nucleic acids, and chlorophyll, which are essential for growth and development.
5. Excess nitrate in soil can lead to environmental problems such as groundwater contamination and eutrophication in aquatic ecosystems, disrupting ecosystem balance and harming aquatic organisms.

