

THE NITROGEN CYCLE

- **The Nitrogen Cycle** all organisms require nitrogen to make amino acids, which are used to build nucleic acids, which combine to form DNA, RNA, and proteins. Many different forms of nitrogen occur naturally in the biosphere. (N_2) makes up 78 percent of Earth's atmosphere. Nitrogen-containing substances are found in soil, in the wastes produced by organisms, and in dead and decaying organic matter.
- **Nitrogen fixation** is the bacteria convert nitrogen gas into ammonia
- **Denitrification** is soil or bacteria obtain energy by converting nitrates into nitrogen gas
- **Atmospheric nitrogen fixation** is relatively small amount of nitrogen gas is converted to usable forms by lightning in a process

Why do organisms require nitrogen ?

- Because to make amino acids and build nucleic acids which make DNA, RNA and Protein

What nitrogen gas makes up 78 percent of Earth's atmosphere ?

- Nitrogen

Explain Where are the nitrogen-containing substances such as ammonia (NH₃), nitrates ions (NO₃), and nitrite ions (NO₂-) found ?

- found in soil, in the waste produced by many organisms and in dead and decaying organic matter

Explain the process nitrogen fixation?

- process by which nitrogen in the Earth's atmosphere is converted into ammonia (NH₃) or other molecules available to living organisms

What are the products of nitrogen fixation?

- Ammonium, ammonium is a positively charged polyatomic ion with the chemical formula NH₄⁺



Producers use the products to make protein. What is producer?

- the producer is plant. Producers make sugar and oxygen for consumers. Consumers give off carbon dioxide which is used by producers for photosynthesis

How do consumers play a role in the nitrogen cycle ?

- Consumers use the food produced by producers for energy. Their respiration also returns carbon dioxide to the atmosphere.

Define decomposer

-an organism, especially a soil bacterium, fungus, or invertebrate, that decomposes organic material.



How do decomposers play a role in the nitrogen cycle ?

- Decomposers also break down the bodies of dead organisms resulting in nitrogen being returned to the soil as ammonia.

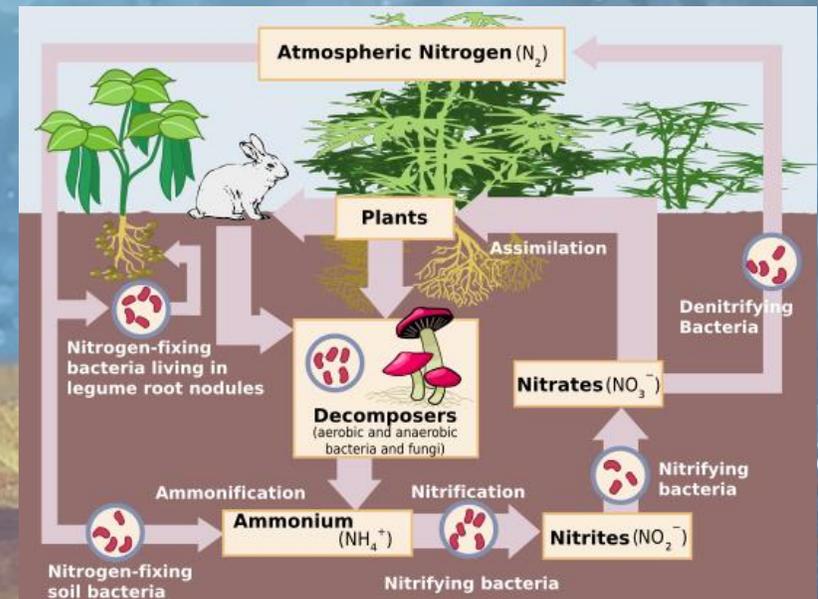
Explain the process of denitrification

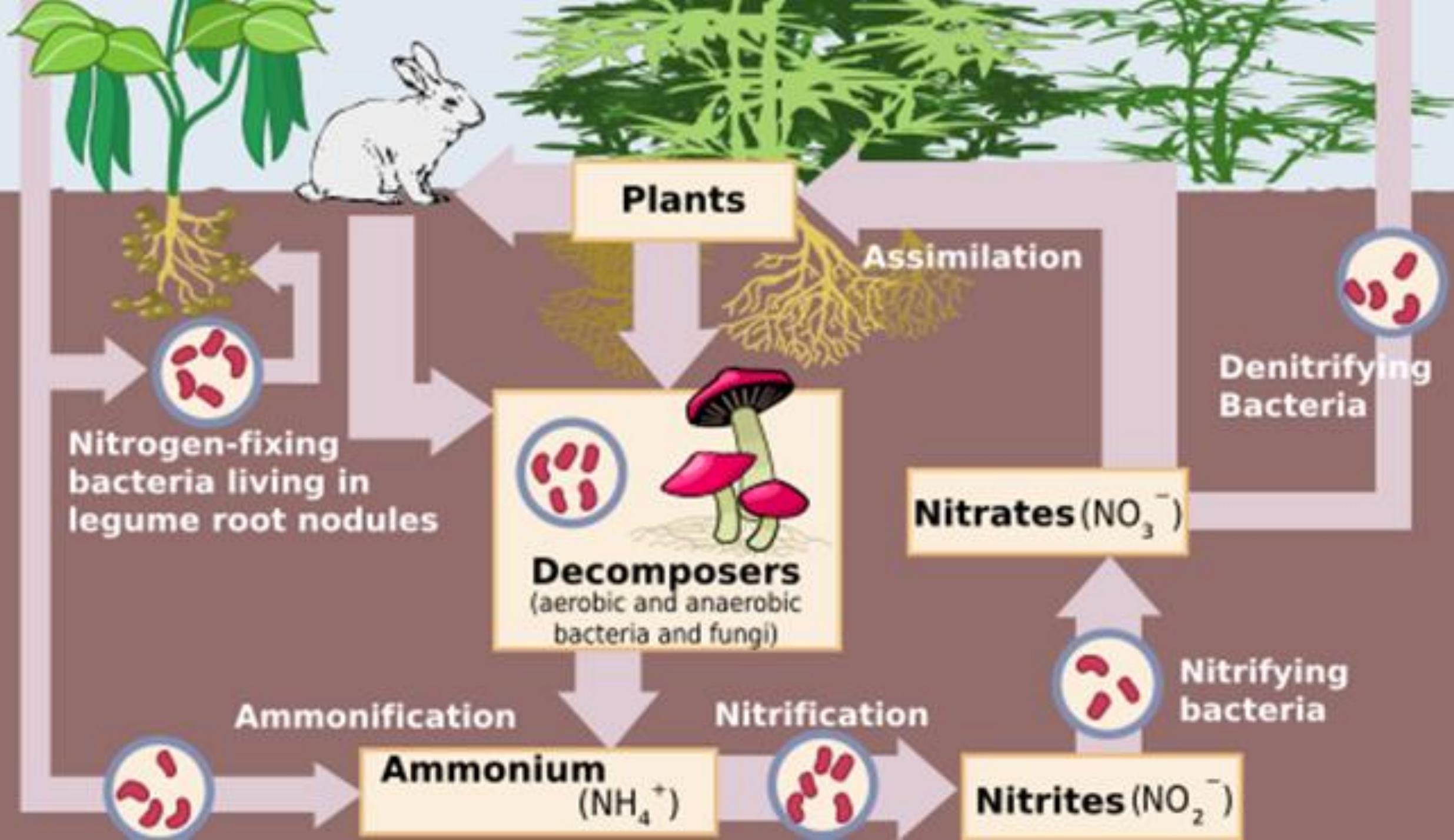
- denitrification is one of two steps in the nitrogen removal process carried out by bacteria.

The first of which is nitrification. Then,

denitrification converts

the nitrate into nitrogen gas.







Thank you for your attention

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