

Cycle Review

The Nitrogen Cycle

Organisms require nitrogen to produce amino acids. Nitrogen makes up seventy-eight percent of the atmosphere, but most organisms can not use this form of nitrogen, and must have the fixed form. The nitrogen cycle produces the fixed form of nitrogen these organisms need.

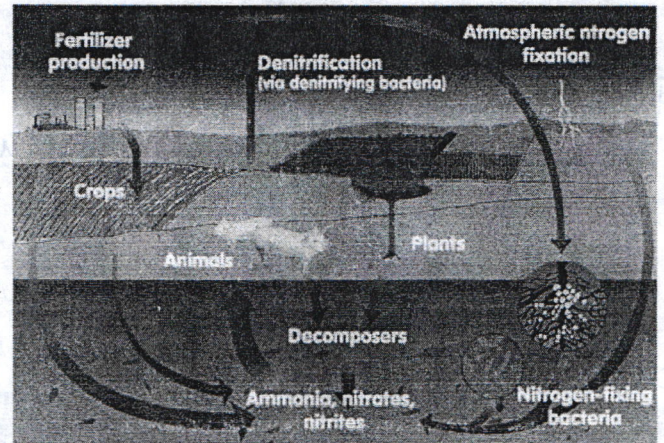
Step 1: **AMMONIFICATION**: A special type of bacteria called nitrogen fixing bacteria take in atmospheric nitrogen and produce ammonia (NH_3).

Step 2: **NITRIFICATION** Other bacteria use this ammonia to produce nitrates and nitrites, which are nitrogen and oxygen containing compounds.

Step 3: **ASSIMILATION** The nitrates and nitrites are used by plants to make amino acids which are then used to make plant proteins.

Step 4: **ASSIMILATION** Plants are consumed by other organisms which use the plant amino acids to make their own.

Step 5: **DECOMPOSITION** Decomposers convert the nitrogen found in other organisms into ammonia (**AMMONIFICATION AGAIN**) and return it to the soil. A few of these type of bacteria return nitrogen to the atmosphere by a process called **denitrification**, however this amount is small.



Questions

1- What is the name of the process above that turns nitrogen from the atmosphere into ammonia?

Fixation / Ammonification

2- What is the name of the process that turns the ammonia into nitrates?

Nitrification

3- What is it called when Plants "take in" nitrogen from the soil?

Assimilation (plant)

4- What is it called when Animals get their nitrogen from plants?

Assimilation (Animal)

5- Look at the picture....where is a place that extra nitrogen could be added to the cycle?

Fertilizer plant

6- When this excess nitrogen makes it into the ocean, what can happen where the river enters the ocean?

Dead Zones can occur