

NAME: CLASS:

STUDENT WORKSHEET

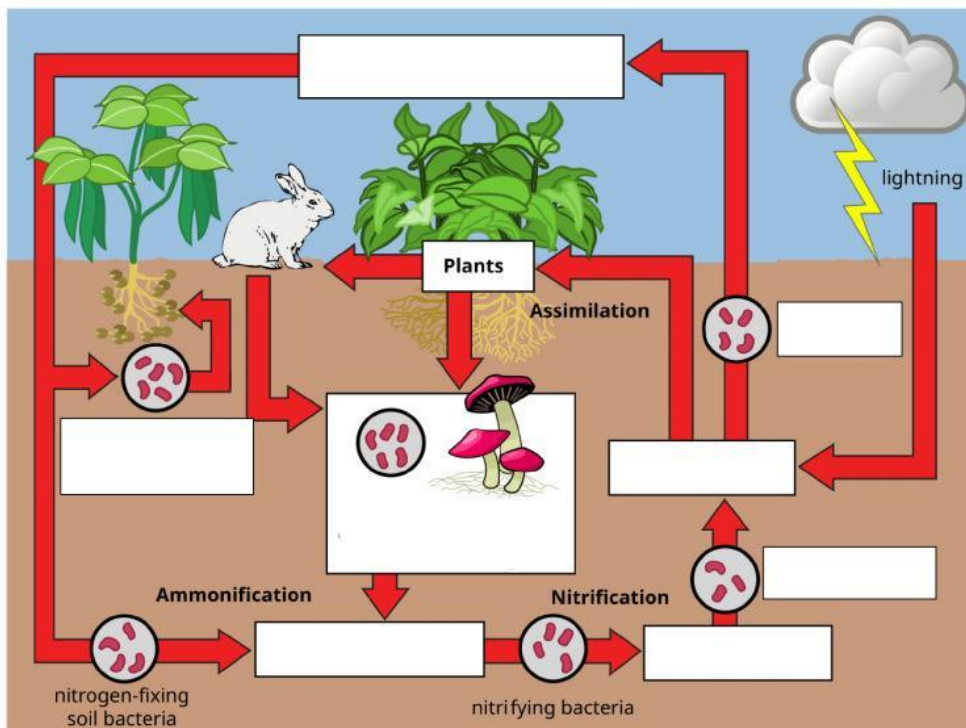
WHAT HAPPEN WITH NITROGEN CYCLE?

Nitrogen moves from the atmosphere into the soil. Earth's atmosphere contains a huge pool of nitrogen gas (N_2). But this nitrogen is 'unavailable' to plants, because the gaseous form cannot be used directly. To be used by plants, the N_2 must be transformed through a process called **nitrogen fixation**. Fixation converts nitrogen in the atmosphere into forms that plants can absorb through their root systems.

A small amount of nitrogen can be fixed when lightning provides the energy needed for N_2 to react with oxygen, producing nitrogen dioxide, NO_2 . Most nitrogen fixation occurs naturally, in the soil, by bacteria. This process is called **ammonification** because it produces NH_4 (ammonium).

Nitrification occurs in soils when ammonium is converted to nitrites NO_2 . Nitrifying bacteria then convert it to NO_3 , nitrates. Nitrates are then taken up in the roots of plants in a process called **assimilation**. Denitrifying bacteria can return nitrogen to the atmosphere.

Based on explanation above, identify the part of this nitrogen cycle by click drag and drop the key answer!

Atmospheric nitrogen (N_2)Nitrites (NO_2)

Nitrifying bacteria

Ammonium (NH_4)

Decomposers

Nitrates (NO_3)Nitrogen fixing bacteria
in roots

Denitrifying bacteria

MAKE A MATCH

Instruction:

Draw a line to match the questions and answer!

What fixes nitrogen from the atmosphere?	ammonium is converted to nitrites
What occurs during ammonification?	bacteria
What occurs during nitrification?	plants take up nitrates from soil
What occurs during assimilation?	nitrogen is converted to ammonia
What is the role of decomposers in the cycle?	it leaks or runs into the lakes and ponds
What happens to the extra nitrogen that farmers use to fertilize crops?	add ammonium to the soil
How does this affect nearby ponds and lakes?	adding nitrates to the water increases algae growth