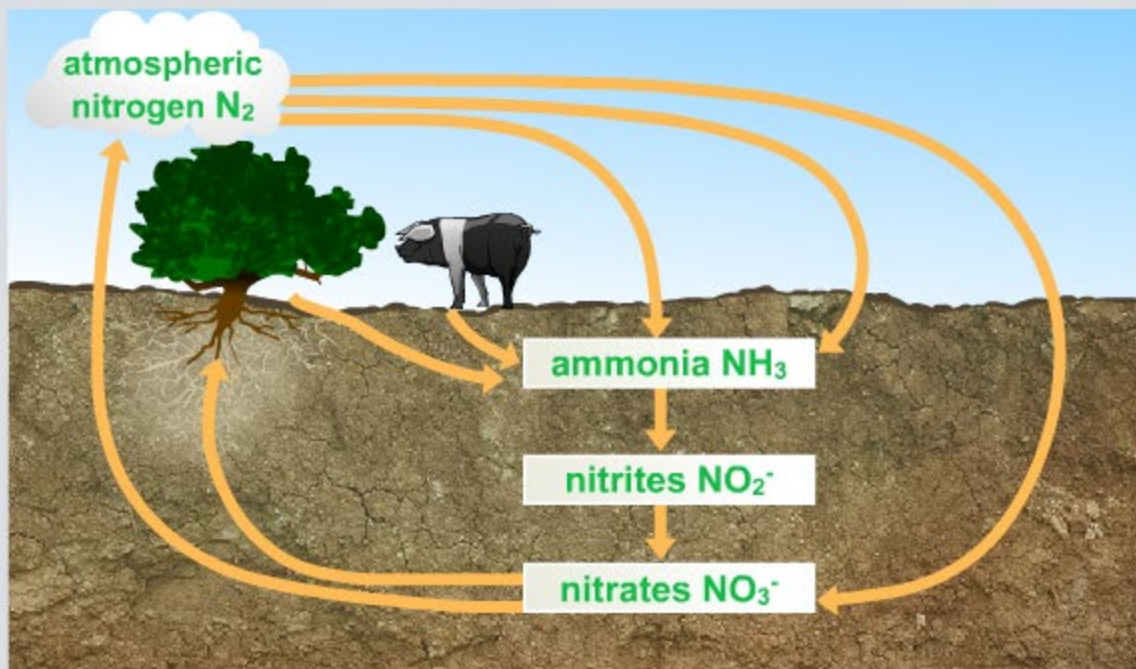


# The Nitrogen Cycle



# The nitrogen cycle

The **nitrogen cycle** is the circulation of nitrogen in the environment as a result of the activity of living organisms and lightning. Human activities also affect the cycle.

Nitrogen makes up about 78% of the Earth's atmosphere. During the cycle it is converted from its inert atmospheric molecular form ( $N_2$ ) into a form that can be used in biological processes.

Nitrogen is a vital component of every living organism. It is only in the form of **nitrates** that nitrogen can enter food chains. Plants absorb nitrates dissolved in water via their roots.



# The stages of the nitrogen cycle



# What happens at each stage?



Farming results in the level of nitrates in the soil being slowly depleted. Fertilizers are used to increase the soil nitrate levels. However, they can have negative effects on the environment.



- **eutrophication** – leaching causes the over-enrichment of water with nutrients, leading to excessive algal growth and reduced oxygen levels
- **reduced species diversity** – nitrogen-rich soils can favor specific species (e.g. grasses) which may lead to other species being out-competed.



# Chemicals involved in the nitrogen cycle



# Processes involved in the nitrogen cycle

