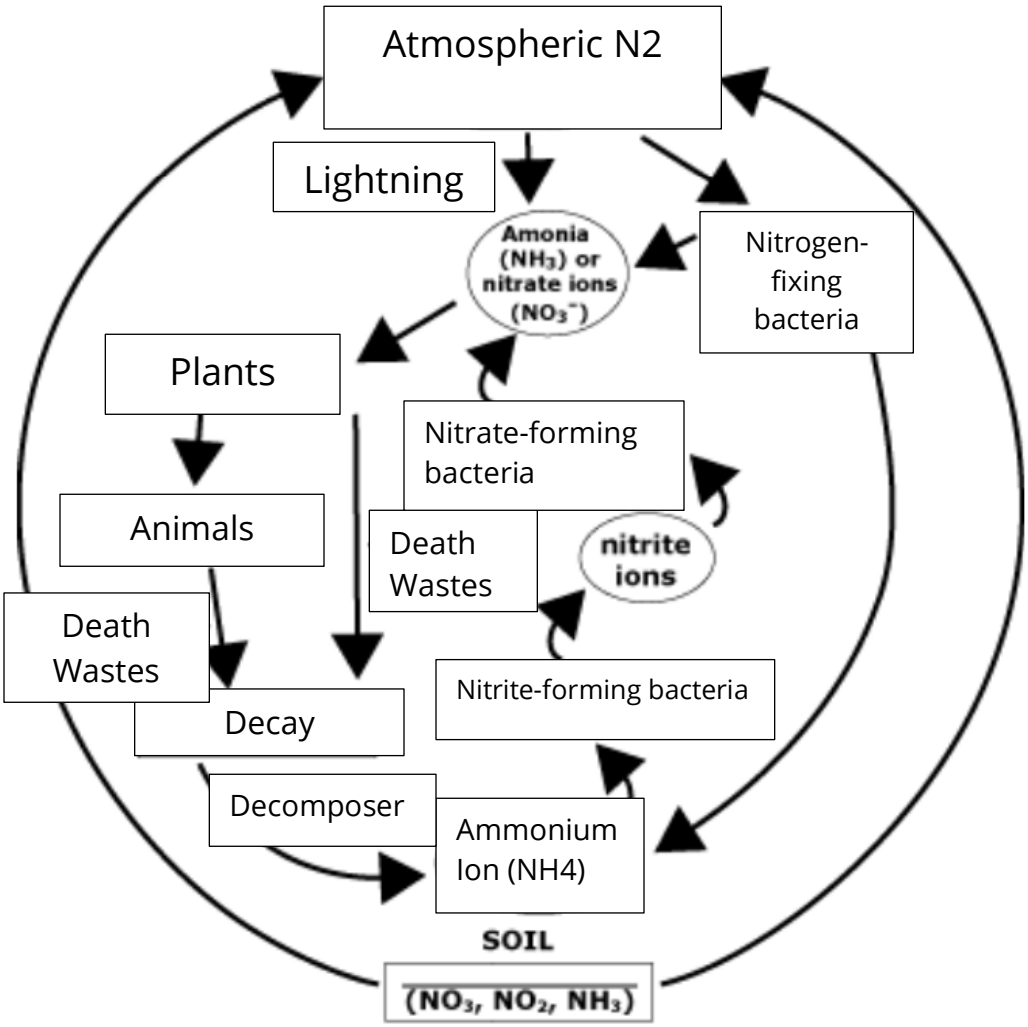
The Nitrogen Cycle

Real World Ecosystems
Learner Worksheet Answer Key
Grade Level: 5-8

Part A

Label the diagram, using the terms given in the table to the right of the diagram. Terms can be used one time only, unless otherwise specified. For example, if a term says (x3) after it, that term can be used in three places on the diagram.



Part B

To understand their understanding of the concepts presented, the learners should produce answers as follows:

1. **The most abundant gas in the atmosphere is:** nitrogen

2. **This gas is ultimately used by plants and animals to produce** amino acids **the basis for building proteins from which all living structures are built.**

3. **Since nitrogen gas is stable, it does not readily combine with other substances. For this reason, nitrogen must be** fixed **through bacterial action either in the soil or in the roots of some plants as** ammonium, nitrites **or** nitrates**.**

4. **Decomposers break down the bodies of plants and animals and thus return nitrogen to the soil in the form of** nitrates**.**

5. **Plants compete with** denitrifying **bacteria in waterlogged soil for nitrates. These bacteria return nitrogen to the** atmosphere **so it is no longer available to plants.**

6. **When nitrogen-rich fertilizers are added to soil, the excess nitrogen run-off may result in dense growth called** algae bloom **on the surfaces of lakes and sloughs. Part of the problem arising from such an event is that the water then becomes low in** oxygen **and thus becomes an unhealthy living place for** fish, water dwellers, etc.