



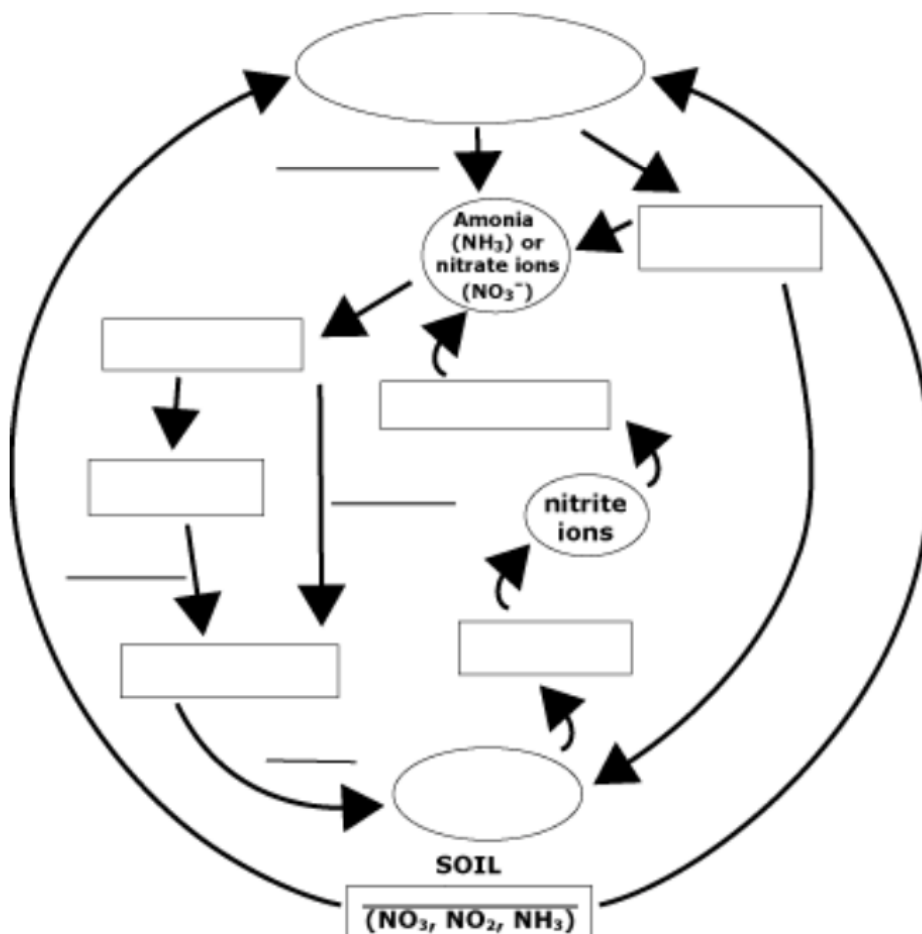
# The Nitrogen Cycle

## Real World Ecosystems Learner Worksheet

Name: \_\_\_\_\_

### 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.



### Terms

- Ammonium ions (NH<sub>4</sub>)
- Animals
- Atmospheric N<sub>2</sub>
- Death wastes (x2)
- Decay
- Decomposers
- Denitrifying bacteria
- Lightning
- Nitrate-forming bacteria
- Nitrogen-fixing bacteria
- Nitrite-forming bacteria
- Plants

## Part B

Fill in the blanks

1. The most abundant gas in the atmosphere is \_\_\_\_\_
2. This gas is ultimately used by plants and animals to produce \_\_\_\_\_  
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 \_\_\_\_\_ through bacterial action either in the soil or in the roots of some plants as \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_.
4. Decomposers break down the bodies of plants and animals and thus return nitrogen to the soil in the form of \_\_\_\_\_
5. Plants compete with \_\_\_\_\_ bacteria in waterlogged soil for nitrates. These bacteria return nitrogen to the \_\_\_\_\_, 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 \_\_\_\_\_ on the surfaces of lakes and sloughs. Part of the problem arising from such an event is that the water then becomes low in \_\_\_\_\_ and thus becomes an unhealthy living place for \_\_\_\_\_.