

# The Nitrogen Cycle Game Instructions

## Supplies:

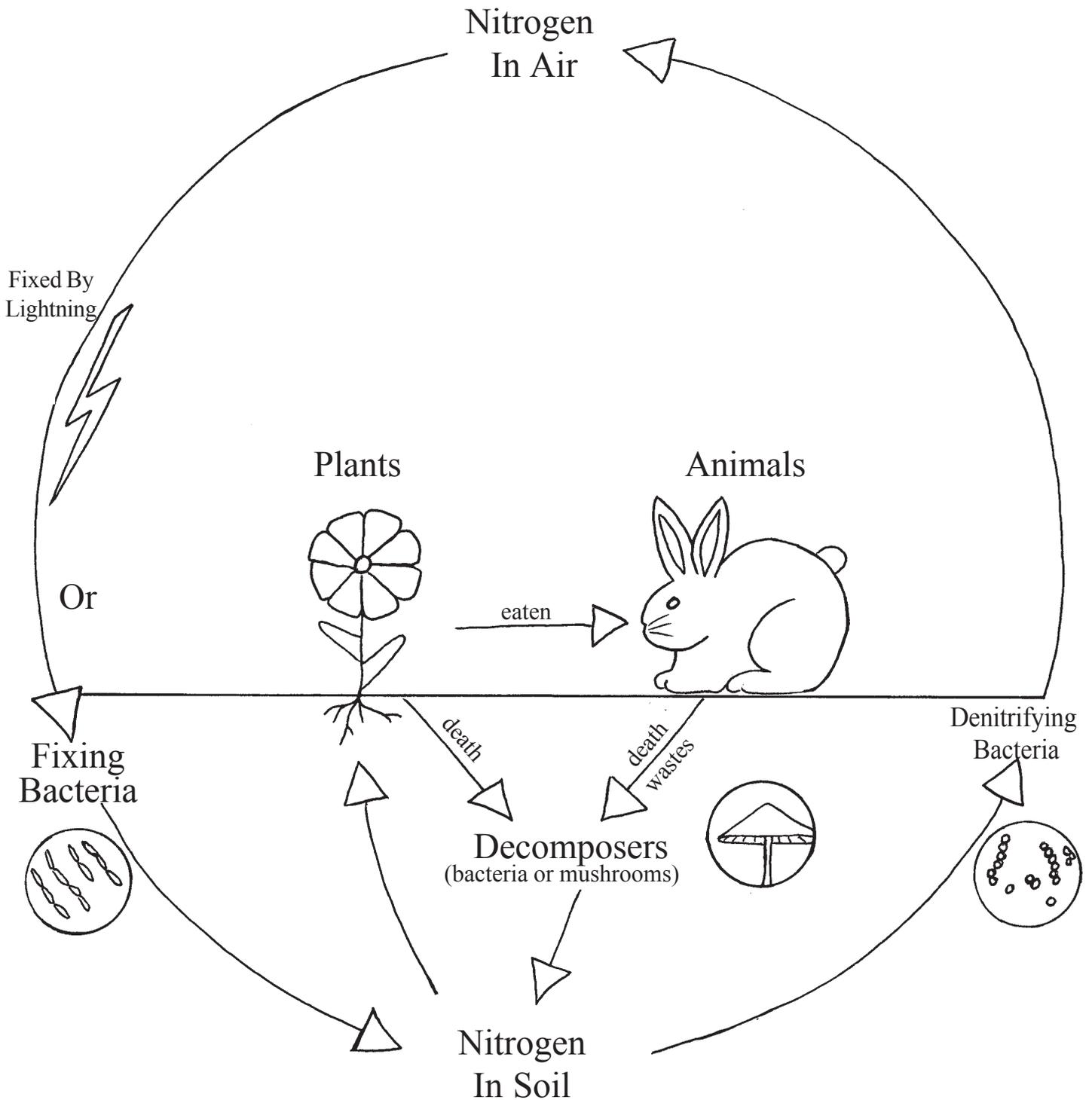
- color coded station cards
- color coded station bowls for holding cards
- station signs
- Nitrogen Cycle student worksheets (one per student)
- mat boards with rubber bands or clipboards
- pencils
- Nitrogen Cycle Poster



## How to Play:

1. Go over Nitrogen Poster to explain movement of nitrogen in an ecosystem.
2. Student will become nitrogen molecules and travel to various stations and record their journey.
3. Handout worksheets, mat boards and pencils.
4. Assign each student to a station. Have them write this station as #1 on their worksheet.
5. When game begins, students will reach into the bowl without peeking and take out one card. Students look at the picture and write down the next station the card indicates for them to head as #2. The card is returned to the bowl before the student leaves the station. Continue the same procedure at each station.
6. If a student has a “Stay” card, they must write down “stay” and take another turn. If there is a line waiting at the station, they should go to the end of the line.
7. When students have completed up to #15, they should move away from the stations. To finish the worksheet, students need to draw arrows from picture to picture to represent their journey starting with #1 and ending at #15. They should indicate a “Stay” at a station by circling the picture.

# The Nitrogen Cycle



## Debriefing the Nitrogen Cycle Activity:

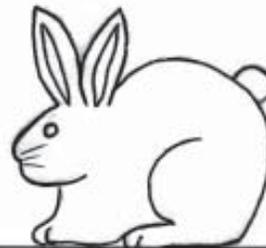
1. Have each student share one of their journeys. Mark their journey on the large Nitrogen poster with a marker. Discuss what process allowed for the movement of Nitrogen to the new station.
2. **Did anyone get stuck anywhere?** Probably in the air; the air is a reservoir of N. Earth's atmosphere is 79%N but it is in a form unavailable to living things. Very few N molecules are fixed by the bacteria, allowing them to be used by plants and animals.
3. **What was the only way the N could get to the animals?**  
By the animals eating plants.
4. **What was the only way the N could get back into the air?**  
By the denitrifying bacteria.

# The Nitrogen Cycle



Nitrogen  
In Air

Plants



Animals

Decomposers  
(bacteria or mushrooms)



Fixing  
Bacteria



Denitrifying  
Bacteria

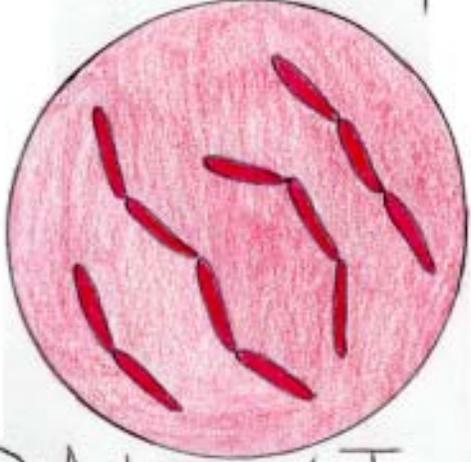


Nitrogen  
In Soil

Write down the station you are beginning at as #1. When the game begins, pull a card out of the bowl and write down the next station you are heading to as #2. Put the card back in the bowl and head to the next station. Continue this from station to station. If you get a “Stay” card, you must write down “stay” and take another turn. When you have finished #15, sit down and draw arrows above from picture to picture to represent your journey. Circle the picture for every time you had to “stay”.

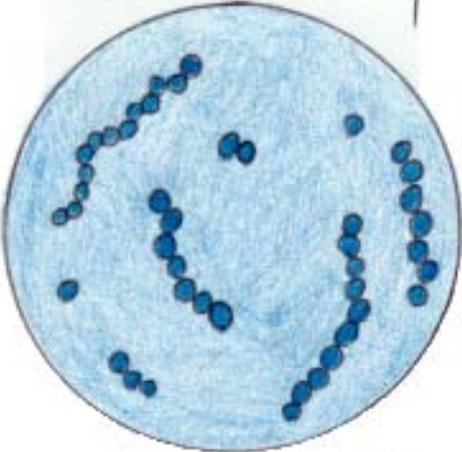
- |    |     |     |
|----|-----|-----|
| 1. | 6.  | 11. |
| 2. | 7.  | 12. |
| 3. | 8.  | 13. |
| 4. | 9.  | 14. |
| 5. | 10. | 15. |

bacteria



Nitrogen  
FIXING

bacteria

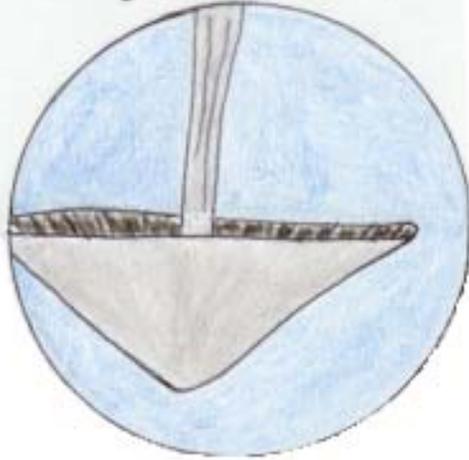


DENITRIFYING



PLANTS

WASTES



DECOMPOSERS



N<sup>n</sup> trogen



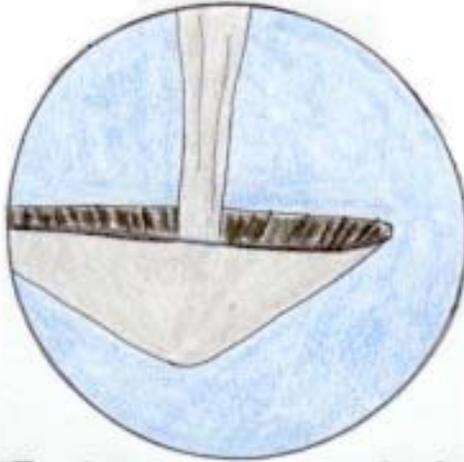
N<sup>n</sup> trogen



<sup>n</sup>  
Nitrogen

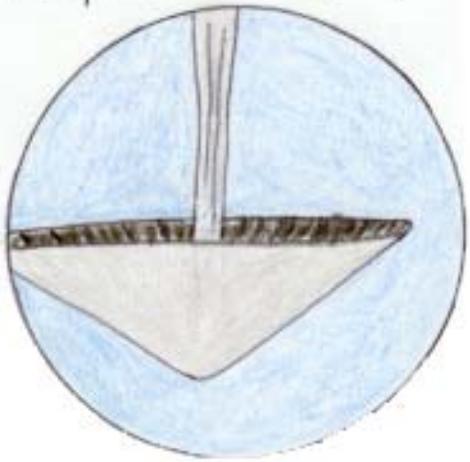
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Death

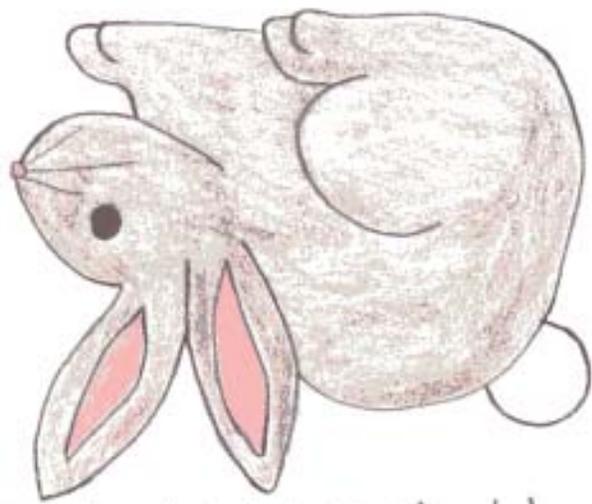


DECOMPOSERS

bacteria or mushrooms



DECOMPOSERS



ANIMALS