

Student Sheet

Name \_\_\_\_\_

### **Title: Traveling Nitrogen**

**Introduction:** Nitrogen is an essential element in living things. The atmosphere is composed of nearly 80% nitrogen. You'd think there would be plenty of nitrogen for all living things but there is not. Nitrogen is often a limiting factor in an environment. That means that when it has all been utilized, the number of living things can no longer increase. Fortunately, there are ways for nitrogen to increase in an ecosystem. One is a type of bacteria that has evolved can gather nitrogen and convert it to a form useful to plants and animals. They are called nitrogen-fixing bacteria and are found in plant roots in a group of plants called legumes. Alfalfa and peas are examples of legumes. You can thank a pea for the protein in your body today.

### **Procedures:**

1. Look at the nitrogen "stations" around the room and go to the first one as your teacher directs. Write "start" in the "how I traveled" box.
2. Shake the dice at that station and write down what form you have become and which station you are going to next. Go to that station.
3. At the new station, stamp the place on your passport to show you were there and shake the dice again. If you go to the same station more than once, write a number "2" and roll the dice. Change the number each time you return.
5. Continue for as long as the game lasts. Remember to think about what nitrogen does in the environment.
6. Your passport is on the back of this page. Don't leave home without it!

### **Analysis questions:**

1. When does nitrogen leave the air?
2. When does water carry nitrogen?
3. How do people affect the nitrogen cycle?
4. When do animals lose nitrogen?
5. What is the value of decomposing organisms and wastes in the soil?
6. How do animals get nitrogen?

Conclusion: Draw the nitrogen cycle you experienced using arrows and words.