

The Nitrogen Cycle

Real World Ecosystems
Activity
Grade Level: 5-8



Main Objectives

This activity provides an introduction to terminology along with background information, then provides practice activities in which students identify some transformations that occur in the “lifetimes” of nitrogen molecules.

Learning Outcomes

By the end of this activity, learners will:

- Describe matter cycles in terms of stages and processes by which specific atoms are withdrawn from a source, are incorporated into the tissues of living organisms, and returned to their original source.
- Construct simple diagrams to represent each of the given cycles
- Identify some of the ways in which human activity may change each of the cycles and the issue involved with that change

Length of Activity

1 hour

Materials List

The Nitrogen Cycle Backgrounder
The Nitrogen Cycle Learner Worksheet
The Nitrogen Cycle Learner Worksheet Answer Key

Procedure

Step 1: Backgrounder

- a. In groups or individually, review the Nitrogen Cycle Backgrounder.

Step 2: Worksheet

- a. Provide the learners with the worksheet and have them answer the questions as a take-home assignment, or in class.
- b. Answers to the worksheet questions can be found in the answer key.

Tips and Extensions

- Traditionally, the nitrogen cycle is a complex idea for learners to grasp. At this grade level, not all the details are required, as indicated by the diagram for them to complete.
- If there is a fish tank in the school, make a list of terms used in the worksheet, then arrange them and tape onto the fish tank in a way that explains the nitrogen cycle.
- Demonstrate how matter cycles by building a biosphere bottle.