

Carbon cycle and Oxygen cycle

Lesson activities:

1. Teacher gives the students to read the following texts and look at a diagram.

A. The carbon cycle is one of the major cycles of the chemical elements in the environment. Carbon (as carbon dioxide) is taken up from the atmosphere and incorporated into the tissues of plants in **photosynthesis**. It may then pass into the bodies of animals as the plants are eaten. During the respiration of plants, animals, and organisms that bring about decomposition, carbon dioxide is returned to the atmosphere. The combustion of fossil fuels (e.g. coal and peat) also releases carbon dioxide into the atmosphere.

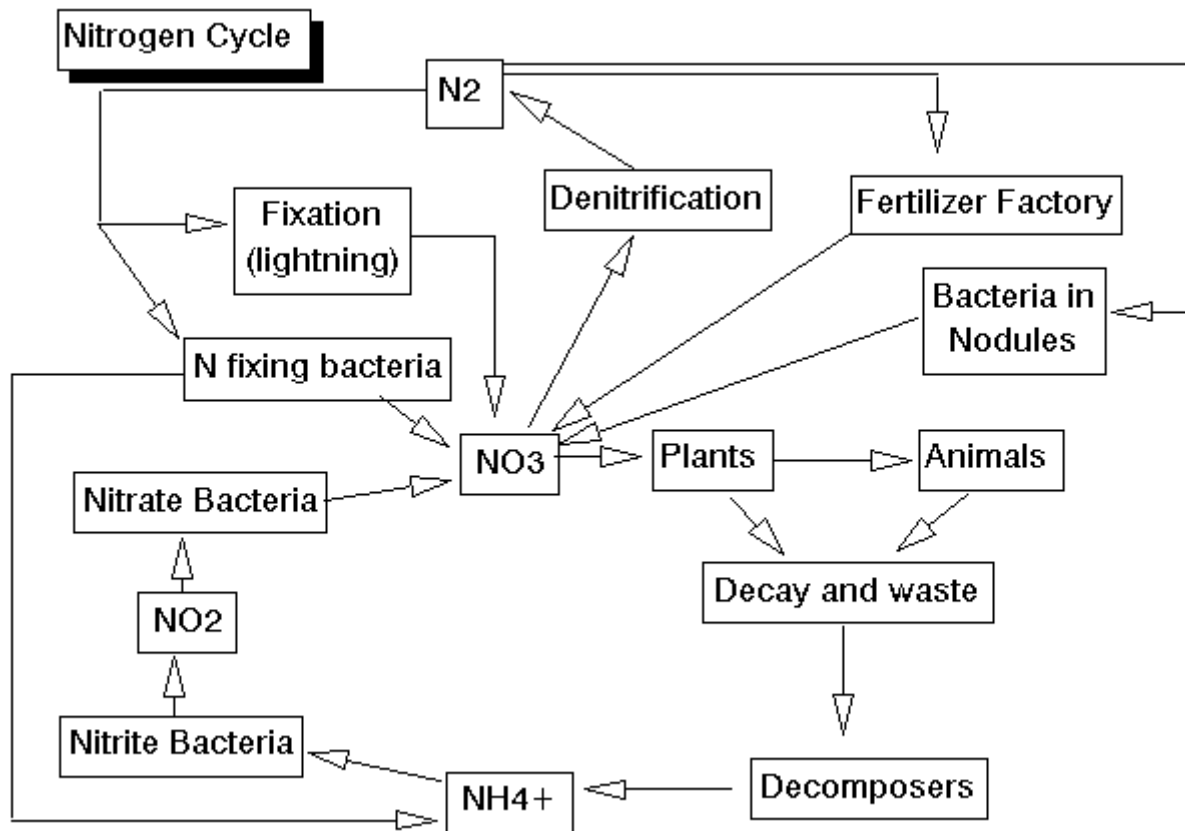
2. After reading the text below, students make a picture model of the oxygen cycle like the diagram of the carbon cycle. They have to include all parts of the oxygen cycle.

B. The oxygen cycle is closely linked to the carbon cycle and the water cycle. In the processes of respiration oxygen is taken in by living organisms and released into the atmosphere, combined with carbon, in the form of carbon dioxide. Carbon dioxide enters the carbon cycle or is taken up by plants for photosynthesis. During photosynthesis oxygen is evolved by the chemical splitting of water and returned to the atmosphere. In the upper atmosphere, ozone is formed from oxygen and dissociates to release oxygen.

3. Teacher gives the students a diagram of a nitrogen cycle and they have to write down a definition of it.

4. Match properties A) with entities B).

A)



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A)

1. Water cycle

2. Photosynthesis

3. Decomposition

4. Respiration

B)

a) It is the typical process where mitochondria of cells of organisms release chemical energy from sugar and other organic molecules through chemical oxidation. This process occurs in both plants and animals.

b) It is chemically or physically breakdown a **mass** of **matter** into smaller parts or chemical **elements**

c) It is a process carried out by all plants and algae and certain bacteria, using special pigments, called chlorophylls, which can absorb the radiant energy of the Sun and convert it to chemical energy. This chemical energy is used to make sugars from the gas carbon dioxide and water.

d) It is the cyclic movement of water from the sea to the atmosphere and back, via precipitation, streams, and rivers.

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