

11-2 What is an Ecosystem?

Populations A **population** is all of the same species of organisms living in a certain place. Different populations may live in the same environment. Look at the first picture below. There is a herd of zebras. These zebras make up one population of the grassland.

Communities Look at the second picture below. This shows a herd of zebras together with a population of wildebeest. The grasses are another population. All the different populations living in a certain place make up a **community**. This community is made up of the three populations you see in the second photograph along with others that are not shown, such as ants and termites.



Ecosystem Several communities together make up an ecosystem. An **ecosystem** is a group of communities interacting with each other and the nonliving parts of their environment. Nonliving parts of an environment include water, air, and soil.

There are many kinds of ecosystems. An ecosystem can be as large as a desert or as small as a rotting log. Ecosystems can be rivers, lakes, or ponds. Even a puddle of water can be an ecosystem. In the pictures above, the ecosystem is a grassland in Africa.

A Self-Supporting Unit An ecosystem is a self-supporting unit. Four processes occur in an ecosystem to make it self-supporting.

- **Production of Energy** The Sun is the source of energy in most ecosystems.
- **Transfer of Energy** Energy is transferred from the Sun to plants that make their own food. The stored energy in plants is transferred to animals that eat the plants. Energy is transferred to other animals when they eat the plant-eating animals.
- **Breakdown of Materials** When organisms die, their bodies decompose, or break down. The chemicals are reused by other living things.
- **Recycling** The materials needed by organisms in an ecosystem are recycled, or used over again.

11-2 What is an ecosystem?

Lesson Review

PART A Circle the term that best completes each statement.

1. All the populations that live in a certain place and can interact with one another make up (a community / an ecosystem).
2. A group of the same kind of organisms living in a certain place is a (population / community).
3. A group of communities interacting with one another and the nonliving things in an environment make up an (ecology / ecosystem).
4. A lake or river can be (an ecosystem / a community).
5. When organisms die, their bodies (produce energy / decompose).
6. (Living / Nonliving) parts of an environment include water, air, and soil.
7. The (Sun / air) is the source of energy in most ecosystems.
8. Energy is transferred from the Sun to (plants / animals) that make their own food.
9. The materials needed by organisms in an ecosystem are (recycled / wasted).
10. An ecosystem is a (self-supporting / unsupported) unit.

Skill Challenge

Skills: *identifying, applying concepts*

An ecosystem is a self-supporting unit. In the spaces provided, list and describe the four processes that make an ecosystem self-supporting.

1. _____

2. _____

3. _____

4. _____

CHECKING CONCEPTS

1. All the different kinds of organisms that live in a pond make up a Community.
2. All the living and nonliving things in an environment together with their interactions make up ecosystem.
3. When organisms die, their bodies decay / decompose / break down.
4. When animals eat green plants, the stored energy in the plants is transferred.