

Sample Lesson #2

Ecosystems

An ecosystem is an area where animals interact with each other. Every ecosystem has specific characteristics that are **biotic** (living) or **abiotic** (non-living). Biotic characteristics include the types of plants and animals living in the ecosystem. Climate, soil-type, and amount of sunlight are examples of abiotic characteristics.

The plants and animals that live in an ecosystem form a **community**; a community is made up of many different populations. **Populations** are groupings of the same animal. For example, the wooded area at a local park is an ecosystem. A population of rabbits, a population of snakes, and a population of pine trees might make up part of the community found in this forest ecosystem.



Many different animals can live in a community, and the place where they live is called their **habitat**. A habitat includes everything the animal needs, such as food, water, and shelter. Two animals may share a similar habitat; however, they may not share a similar niche (rhymes with itch). An animal's **niche** is its role in the ecosystem. A niche includes the animal's needs and what the animal does. In addition to food, water, and shelter, a niche includes other things, such as the time of day when the animal eats and where it takes shelter. Hawks and owls share similar habitats; however, their niches are different. The hawk hunts during the day while the owl hunts at night. Here is another example of different niches:

Two types of warblers (a type of bird) live in a tree; both birds live in spruce trees and eat insects. This means that they share a similar habitat. However, one type of warbler lives at the top of the spruce tree while the other bird builds its nest in the middle section of the tree. The two types of warblers each have different niches.

1. Which of these are traits that are inherited?

hair color favorite food height choice of friends

2. Put these steps of the scientific method in order. Number from 1–5.

- _____ Develop a hypothesis.
- _____ Plan and conduct an experiment.
- _____ Record data during an experiment.
- _____ Form a conclusion based on the results of your experiment.
- _____ Start with a problem or question.

3. Which of these is an abiotic factor that can decrease a population in an ecosystem?

- predators competition parasitism drought

4. Which of these organisms uses the process of meiosis during reproduction?

(See Lesson #18.)

- paramecium amoeba protozoan giraffe

5. Which of the following are facts and which are assumptions? Write F for *fact* or A for *assumption*.

- _____ The chameleon's skin turned brown when it was on the tree bark.
- _____ Ladybugs are afraid of people.
- _____ The goldfish is lonely.
- _____ Supercharge batteries are better than Evercharge batteries.



6. Study each word listed in the chart below. Then give each list a title.

condensation	Animal	nucleus
precipitation	Plant	mitochondria
evaporation	Monera	cell membrane
run-off	Fungi	cytoplasm

7. Match each term with its meaning.

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|------------------|---------------------------------------|
| _____ biotic | A) groupings of the same animal |
| _____ population | B) plants and animals living together |
| _____ niche | C) an animal's role in the ecosystem |
| _____ abiotic | D) living |
| _____ community | E) non-living |
| _____ habitat | F) where an organism lives |