Lab: Biotic organization.

Name _____ Class ENV. SCI. Date _____

CHAPTER 4 **Activity 1. Eco**

BIOTIC ORGANIZATION

Organisms of the same species that inhabit the same area make up a *population*. The various populations of different species found in a given area form a *community*. Within the community each species fills a certain position. It lives in a particular part of the community (its *habitat*). It obtains food in a particular way. It has certain water and nutritional requirements. It serves as food for certain other organisms. The role of a species within the community is its *niche*. Each species within the community occupies a particular niche. When two organisms occupy the same niche in a community, competition will arise between them. *Intraspecific competition* occurs between members of the same species. Competition between two different species is called *interspecific competition*.

The populations of the community interact with the nonliving part of the environment. The community of living organisms and the nonliving portion of the environment in which it exists form an *ecosystem*. For an ecosystem to function, it must have a source of energy, autotrophs to convert this energy into organic compounds, and the ability to recycle elements between the abiotic environment and the individual organisms that make up the community.

The portion of the earth on which life exists is called the *biosphere*. It extends from the deepest part of the ocean, about 11 kilometers down, to the top of the highest mountain, about 9 kilometers up. Within the biosphere, living organisms may be divided into groups and subgroups depending on where they live and their relationships with other living organisms and with the environment.

1. What is a population?

_____

_____

2. What is a community?

_____

_____

3. What is an ecosystem?

_____

_____

_____

_____

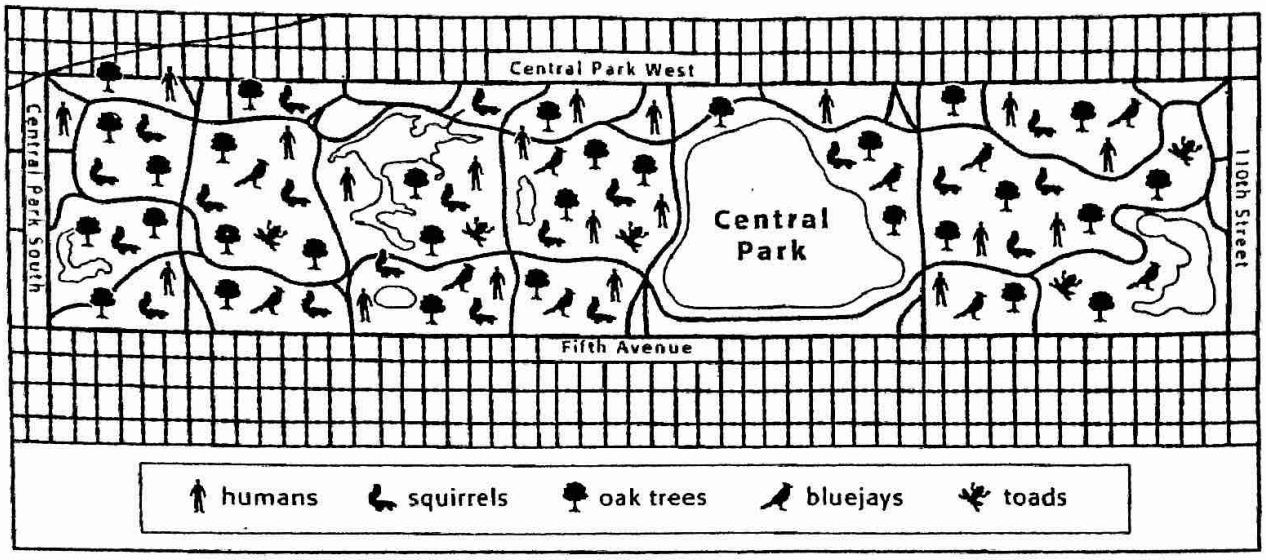
4. All the dogs that live in a town could be said to make up a(n) _____.
5. The plants and animals of an aquarium could be said to make up a(n) _____.
6. A pond and all the organisms it contains make up a(n) _____.
7. The position of a certain species within a community is its _____.
8. Competition arises between two different species in a community when they both occupy the same _____.
9. The portion of the earth on which life exists is the _____.

Name _____ Class _____ Date _____

Skills Worksheet

PARK HABITAT

Map Skills



A habitat does not have to be large in size. Small areas, such as your backyard, can be home to many communities of species. Every day in New York City's Central Park, hundreds of different species interact.

Use the map above to answer the questions below.

1. **Analyzing Data** Identify one organism, one population, and one community.

_____

_____

2. **Using a Key** Which organism has the largest population? Which organism has the smallest population?

_____

3. **Analyzing Data** Do the items in the key represent biotic or abiotic factors?

_____

4. **Inferring Relationships** List specific characteristics of this park that make it a habitat.

_____

_____

5. **Making a Hypothesis** If the human population decreased, how do you think other populations would be affected?

_____