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Space Sharers

What Ecology Is About

What You Need to Know

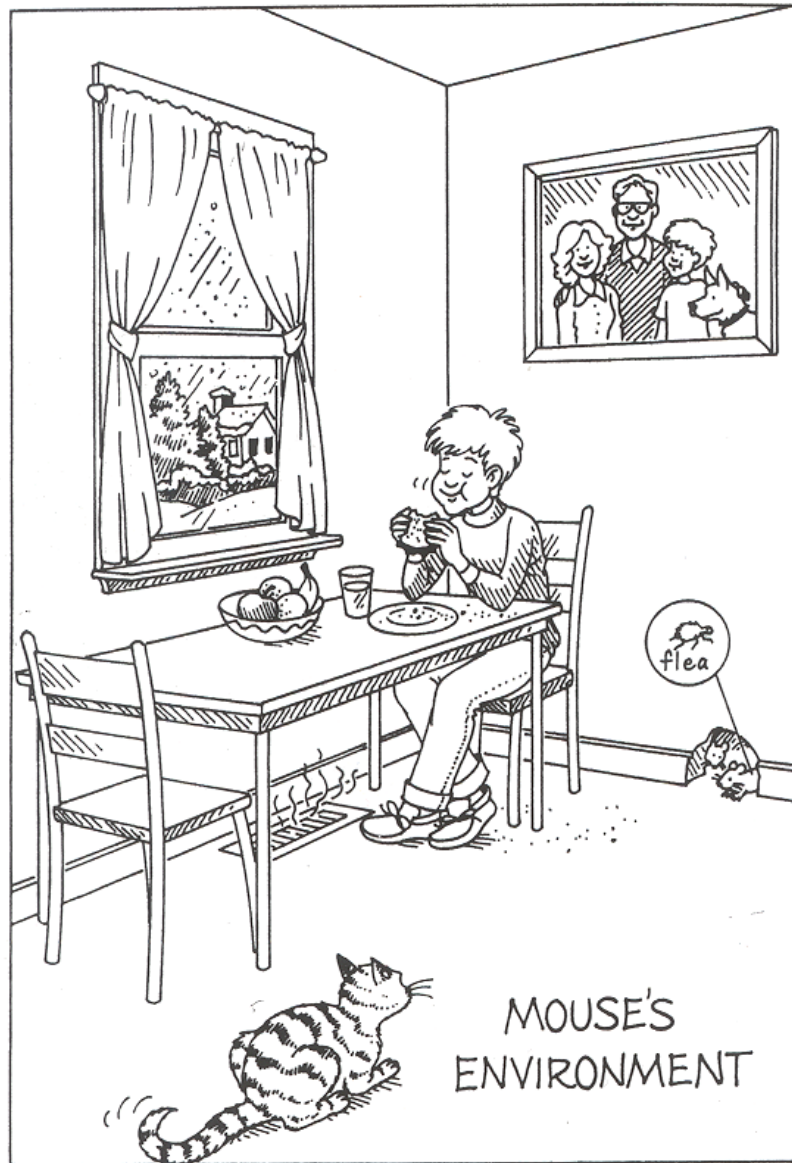
The Greek word for **habitat** (the place where a plant or animal lives) is *oikos*. In 1869 Ernst Haeckel (1834–1919), a German biologist, made up the word *oekologie* to mean “the study of living things in their **environment** (the natural surroundings of living things).” Our word *ecology* is the English version of Haeckel’s word, *oekologie*.

Ecologists are scientists who study organisms and their environments. **Organisms** are all living things, including people, plants, animals, bacteria, and fungi. An environment includes everything, living and nonliving, that affects an organism.

For example, an ecologist’s study of the environment of a mouse in your house would include other animals of the same species, such as more mice, as well as animals of different species, which would include all family pets, you, and your family. A **species** is a group of similar and related organisms. The ecologist would also include in the study any of the mouse’s **predators** (animals that hunt and kill other animals for food), such as a cat. What the mouse eats, the weather, as well as physical structures inside the house would be recorded. Fleas in the mouse’s fur and bacteria inside the flea’s body are also important parts of the mouse’s environment. This study would give the ecologist a better understanding of why the mouse be-

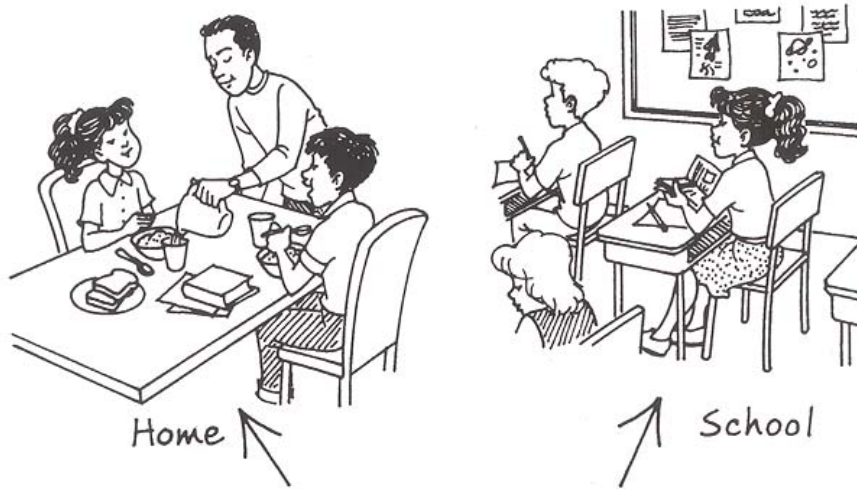
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haves in a particular way, how the mouse is affected by its environment, and how it in turn affects its environment.

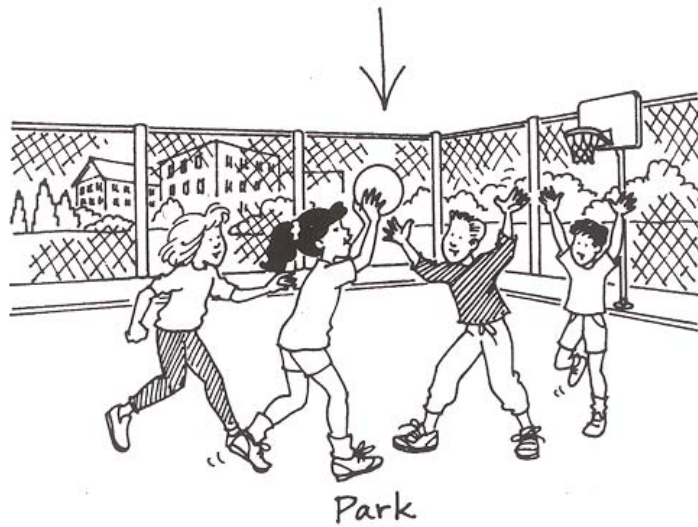


Living organisms can be part of a larger environment and, at the same time, be the habitat for other, smaller living things. Thousands of tiny living things, such as bacteria, live inside and on the bodies of animals, including yours. Yes, your body is a habitat for other living organisms.

Unlike most animals, humans move from one environment to another throughout the day. Some of your environments are your home, school, a park, the shopping mall, and your friend's house. Another interesting thing that makes you different from other animals is that you have the ability to alter your environment. For example, in the summer you can turn on a fan or air conditioner and in the winter you can turn on a heater to change the temperature in your home.



SOME OF
YOUR
ENVIRONMENTS



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Exercises

Study the figures and answer the following questions:

1. How many organisms are represented?
2. How many habitats are represented for the organisms shown?



Activity: SPREADER

Purpose To determine how you affect the spreading of plant seeds in your environment.

Materials 8 tablespoons (120 ml) potting soil
four 5-ounce (150-ml) paper cups
masking tape
pencil
small notebook
shoe box
rubber boots

1-tablespoon (15-ml) metal measuring spoon
tap water

re

is experiment should be performed after it rains during or summer.

tablespoons (30 ml) of potting soil in each of the 4

he tape and pencil to label the cups 1 through 4.

: the cups, pencil, and notebook in the shoe box.

n your rubber boots.



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5. Carrying the shoe box, take a walk through the woods or park, and walk across a muddy area on purpose.
6. Use the spoon to scrape 1 tablespoon (15 ml) of mud from the bottom of your boots.
7. Add the mud to cup 1, and mix the mud and soil in the cup.
8. In the notebook, write a description of the area where the mud for cup 1 was collected.
9. Repeat steps 5 through 8 in a different muddy area for each of the other 3 cups, then go home.
10. With only the cups of soil and mud inside the shoe box, place the box where it will be warm and undisturbed, such as near a window.
11. Observe the contents of the cups each day for 2 weeks or until you observe plant growth. Water the soil in each cup once in a while to keep the soil moist (*not* wet).

Results Plants will usually be found growing in some and maybe all of the cups.

Why? The plants growing in the cups indicate that there were seeds present in the mud that stuck to your boots. Seeds from plants fall and become mixed in with the soil around them. As you walked through the mud, it stuck to the bottom of your boots. Some of the mud fell off your boots before you were able to scrape it into the cups. This fallen mud may have contained seeds. If the mud fell in an environment with the proper amount of warmth and moisture, the seeds would grow, just as the seeds in the cup grew.

You helped the plant **disperse** (spread to another location) its seeds by carrying them from one place to another on the bottom of your boots. You spread plant seeds every time you walk through an area where plants grow. This is just one of the many ways you affect your environment.

Solutions to Exercises

1. Think!

- Organisms are living things.

Four organisms are represented: tree, squirrel, child, and bacteria.

2. Think!

- A habitat is the place where an organism lives.
- The tree is the habitat for the squirrel and bacteria.
- The house is the habitat for the boy, bacteria, and possibly the squirrel (which might live in the attic).
- The squirrel and boy are both habitats for bacteria.
- The bacteria are too small to be a habitat for any of the organisms shown.

Four habitats are represented: tree, house, squirrel, and the boy.