



RESOURCES AND THE ENVIRONMENT

# Resources and Animals

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from *Resources and the Environment Teacher's Guide* and for *Tillena Lou's Big Adventure*.

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This activity is part of the Resources and the Environment teaching unit. The *teacher's guide* may be used alone or with integrated unit components. The Resources unit is comprised of the guide, *Tillena Lou's Big Adventure* (storybook), and two supplements: *The Reading Link* and *The Math Link*. For more information on this and other educational programs, contact the Center for Educational Outreach at 713-798-8200, 800-798-8244, or visit <http://www.bioedonline.org/>

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The activities described in this book are intended for school-age children under direct supervision of adults. The authors, Baylor College of Medicine and the publisher cannot be responsible for any accidents or injuries that may result from conduct of the activities, from not specifically following directions, or from ignoring cautions contained in the text.

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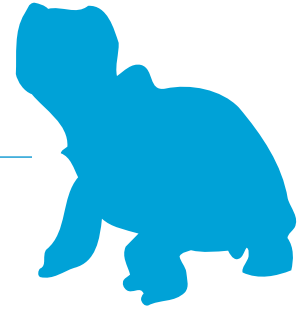
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# Resources and Animals



Students observe, examine, discuss and draw a walking stick insect or a crawfish in its natural environment.

**R**esources are the things people and other organisms obtain from the living and nonliving environment. Resources provide for the needs and wants of a population (group of the same kind of organism). All plants and animals depend on the resources in their environments to live and reproduce.

Animals use resources without modification in most cases. Examples of resources that are used in their natural state include air for breathing; plants, animals and other organisms as food; and water for drinking. An animal's place to be may be one of many specific environments that will meet its needs. However, some animals create their shelter or places to raise their young using materials readily available. For instance, a beaver builds a lodge; a bird builds a nest.

## SETUP

Order either live walking stick insects or live crawfish from a biological supply company. (Each student group will study one individual animal.) Prepare the type of habitat you need in advance.

To prepare a terrarium for the walking stick insects, cover the base with about 5 cm of topsoil. Place branches inside for the insects to crawl on. Add the insects and cover the terrarium with a screen. Spray or mist the terrarium daily with a small amount of water.

To prepare an aquarium for crawfish, place river rocks or gravel in the base. Fill the aquarium with at least 5 cm of water. Add a few rocks above the water level. If using tap water, let the water sit at least 24 hours before adding the crawfish, or use de-chlorination tablets. Keep a gallon jug of tap water (aged for 24 hours), or a gallon jug of de-chlorinated water, for use as needed. Install a small air pump with an air stone. Add the crawfish.

Keep the animal habitat out of sight until the end of the activity.

If you do not have plastic containers, prepare 6 two-liter soft drink bottles (one per group). Cut off the top one third of each bottle and discard it. Place masking tape around the sharp edges of bottles.

## PROCEDURE

1. Explain that our environment supplies the materials we need to live and grow. Ask, *Are all environments the same?* You may want to mention different kinds of natural environments, such as a pond, forest or grassland.
2. Give a plastic container to each group. Explain that you will be putting an animal in each container for the group to observe. Let students share what they know about care of living things. Discuss

## CONCEPTS

- Resources are things in the environment that people and other living things use to meet their needs and wants.
- Resources can be nonliving or living. Some resources come from objects or materials that once were living, such as wood.
- Most animals use resources, without modification, just as they occur in nature.

## SKILLS

- Observing
- Generalizing
- Describing
- Drawing and labeling
- Drawing conclusions

## TIME

**Setup:** 1 hour

**Class:** 30 minutes

## MATERIALS (see Setup)

### Teacher Materials

- Terrarium
- 6 (or more) live walking stick insects
- 5 cm of topsoil (to cover base of terrarium)
- Branches
- Water in a spray bottle (mister)
- Screen-type cover for terrarium

### Alternate Materials (see Setup)

- Aquarium
- 6 (or more) live crawfish with 5 cm of water
- Air pump with an air stone
- Gallon jug of water
- River rocks or gravel (a few rocks above the water level)

*Optional:* De-chlorination tablets

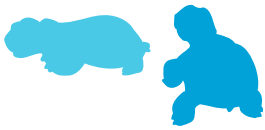
### Materials per Student Group

- Plastic container
- Walking stick insect or crawfish

### Materials per Student

- Hand lens





## MAINTAINING THE ORGANISMS

### Walking Sticks

Use a misting bottle to provide water. Mist the interior of the habitat every day to keep the soil slightly moist. Walking sticks are herbivores. Feed them fresh leaves of Romaine lettuce, or collect raspberry, rose or apple leaves for them to eat.

### Crayfish

Turtle pellets are a suitable food for crayfish. Feed about three pellets per crayfish, 2–3 times per week. Crayfish usually will not eat when they are being observed.



- the handling of animals. Emphasize that students need to respect the animal as a living organism. They may use the hand lens to observe the animals, but should not put their hands inside the container.
3. After giving each group a living organism, ask them to draw the animal and label any parts they are familiar with.
  4. Then ask, *Do you think the animal can live in the environment inside the container? Why or why not? What do you think it needs to live? Are its needs being met? How can we provide it with its basic needs?* Discuss what the students know about how the animal gets air, water, food and shelter.
  5. Ask the students to come to a central area and leave their animal in the container on the desk. Place the pre-prepared terrarium/aquarium in a central location with all the students around it. Ask them, *Do you think your animal could live in this environment? Why or why not? Does it have air? Water? Food? Space?* Discuss how the animal will get each need met. *Does the animal go to the grocery store, or grow its own food? Does it get water from the faucet or build houses?* Note that some animals do create shelter, or at least a place to raise their young, but not like people do.
  6. One at a time let each group bring their animal (in its container) to the terrarium/aquarium and carefully place the animal into the terrarium/aquarium. You may have to help them carefully move it.
  7. Encourage students to observe the animals daily and record the animals' behaviors in their journals, either in pictures or words. You may want to guide students by asking, *How does it move? How does it catch and eat food? Is it active at different times of the day? Does it appear to rest?*