



LIVING THINGS AND THEIR NEEDS

# Plant or Animal?

Written by Nancy Moreno, Ph.D., Barbara Tharp, M.S., and Paula Cutler, B.A.

from *Living Things and Their Needs Teacher's Guide* and for *Tillena Lou's Day in the Sun*.

## BioEd<sup>SM</sup>

Teacher Resources from the  
Center for Educational Outreach at  
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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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# Using Cooperative Groups

Cooperative learning is a systematic way for students to work together in groups of two to four. Quite often, early primary students need to have their own materials, but can work in groups to share ideas and to learn from one another. Through such interactions, students are more likely to take responsibility for their own learning. The use of cooperative groups provides necessary support for reluctant learners, models community settings where cooperation is necessary, and enables the teacher to conduct hands-on investigations in a more manageable environment.

Students wear job badges that describe their duties. Tasks are rotated within each group for different activities so that each student has an opportunity to experience all roles. Teachers even may want to make class charts to coordinate job assignments within groups.

Once a cooperative model for learning has been established in the classroom, students are able to conduct science activities in an organized and effective manner. All students are aware of their responsibilities and are able to contribute to successful group efforts.

• Asks others to help with questions

fold here

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**Scientist Leader**

• Gets the materials and returns materials to the leader

fold here

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**Materials Scientist**



• Writes or draws results when group is finished

fold here

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**Scientist Recorder**

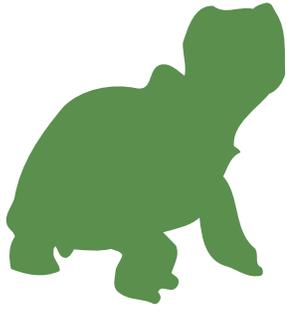
• Follows the safety rules cleanup

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**Safety Scientist**





# Plant or Animal?

Students will explore two major kinds of living things, plants and animals, and compare their needs.

## CONCEPTS

- Plants and animals are kinds of living things.
- Animals and plants have some needs that are similar and some that are different.
- Animals need air, water and food, while plants need air, water, nutrients and light.
- Some plants are alike in appearance and in the things they do, while others are very different from one another. This also is true for animals.

## SKILLS

**Science:** Observing, sorting and classifying, comparing, contrasting, communicating, generalizing, charting

**Language Arts:** Listening, communicating, understanding word meanings, developing comprehension skills, writing, using descriptive language, following directions

## TIME

**Class:** 45 minutes

## MATERIALS

- 2 sets of Tillena Lou's World cards (12 cards per set, see Setup)

### Per student

- Craft stick, wood
- Crayons or colored pencils
- Glue
- Paper plate, 8 in. (prepared, see Setup)
- Copy of "My Science Journal" student sheet

At this point in the unit, students have observed and learned about a plant and an animal. This activity provides them with opportunities to test their assumptions about plants and animals, and to learn about plant and animal diversity. If students can explore outdoors, they might be able to observe the following kinds of animals and plants.

### Animals without backbones

- Mollusks (snails, slugs, clams) - soft moist body, uses a large muscular "foot" to move.
- Crustaceans (crayfish, pill bugs, sow bugs) - hard outer covering (exoskeleton), jointed bodies and legs.
- Insects (ants, bees, wasps, flies, butterflies, beetles, mosquitoes) - body made of three segments, one pair of antennae, often with one or two pairs of wings, six jointed legs.
- Spiders and their relatives (ticks, mites, daddy longlegs) - body of two segments, no antennae, four pairs of legs.

### Animals with backbones

- Amphibians (frogs, toads) - soft moist outer skin, four legs.
- Reptiles (lizards, turtles, snakes) - dry, scaled skin, four or no legs.
- Fish - scaled skin, no legs, has fins and gills, lives in water.
- Birds - feathers, beak as a mouth, two wings, two legs.
- Mammals (squirrels, cats, dogs, horses, cows, hamsters, people) - body hair, four legs or two legs and two arms.

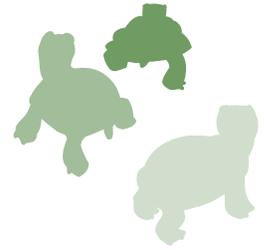
### Non-Flowering Plants

- Mosses - low-growing green plants in damp places and on trees, leaves very small. Mosses do not produce flowers or true seeds.
- Ferns - long-branched leaves that start at the base of the plant, leaf divisions arranged like the teeth of a comb. Ferns do not produce flowers or true seeds.
- Pines and their relatives (pines, cedars, fir) - trees and shrubs with needle-like or scale-like, evergreen leaves. These trees and shrubs produce cones instead of flowers.

### Flowering plants

- Monocots (grasses, lilies, irises, palms, onions) - parallel veins in leaves, flower parts in multiples of three, leaves often originating at base of plant, one seed leaf (cotyledon).
- Dicots (oaks, maples, elms, willows, petunias, clover, dandelions) - veins in leaves arranged like a fan or branching from a central vein, flower parts very numerous or in multiples of four and five, leaves often distributed along a stem, two seed leaves (cotyledons).





## SETUP

You will need a copy of the book, *Tillena Lou's Day in the Sun*, to read to students as part of this activity.

Copy the student sheet on card stock, then cut out each card. Each student should receive one card.

Each student also will need a paper plate. Cut a short slit in the center of each plate. The slit should be wide enough to allow a craft stick to slip through and stand vertically (see illustration below).

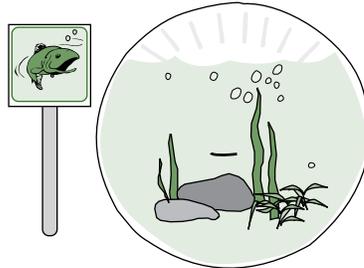
Create a two-column chart to be filled out during class. One column will list ways in which plants and animals are alike and the other will list ways in which they are different.

Introduce this activity to the entire class. Students will build individual puppets in Part 1 and will solve riddles in teams in Part 2.

## PROCEDURE

### Part 1. Plant or animal?

1. As a whole group, reread *Tillena Lou's Day in the Sun*. Call attention to the different animals and plants in the story, and to their needs. Following the reading, assess student understanding by asking questions such as, *Who needs water?* (all plants and animals in the story), *Who needs food, air, soil, sun* (etc.)? *Who swims? Who hops? Who plants seeds? What do bees gather?* Guide students toward noticing differences between plants and animals. Emphasize the characteristics that make each living thing special (e.g., *Do all animals wear clothing? Does every living thing eat corn?*).
2. Explain to students that they each will receive a picture of an animal or a plant from the story to make into a puppet. Distribute one card and other materials to each student. Have each student color his or her card, then glue the card to one end of his or her craft stick. While students are working, ask each to recall the role his or her animal or plant (or "puppet") played in the story.
3. Give each student a paper plate. Have students flip the paper plates over (convex side) to make color drawings of the their puppets' habitats (animal or plant)—where the organisms live, their food sources, etc.



## EXTENSION

Take the students on a mini-field trip, either within the school building or around the schoolyard, giving them time to observe, write and draw. You may want to stop at certain points to let them sit and observe. Help them find examples of different living organisms by asking questions. Have them note parts like leaves, flowers, backbones, legs, etc. Call attention to how the organisms move, where they are, what they are doing.

Upon returning to the classroom, ask students what living organisms they saw. Use these observations to prompt a discussion about types of living things and their needs.



## WHAT IS A HABITAT?

The kind of place where a given organism normally lives is called its habitat. "Habitat" is different from "home," because habitat refers to the setting in which a kind of organism lives. Living things obtain everything they need to grow, survive and reproduce from their habitats.



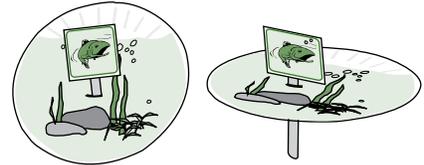
## CHARACTERISTICS OF PLANTS

- Nonmoving (from place to place)
- Have green parts (which are responsible for trapping sunlight)
- Use sunlight to make food (photosynthesis—it's a good idea to expose children to accurate terms)
- Produce seeds (usually)
- Have roots, stems and leaves, and often produce flowers or cones, fruits and seeds
- Need water, sunlight, nutrients from soil, and air
- Rely on animals, wind and water for the transport of plant pollen and seeds

## CHARACTERISTICS OF ANIMALS

- Capable of willful movement (from place to place)
- Usually don't have green parts (and if they do, the green parts do not trap energy from the sun)
- Produce live young or eggs, but not seeds
- Must use other living things or parts of living things as food
- Have body parts (mouths, etc.) that help them eat
- Need water, food and air to survive

4. When the drawings are complete, have students insert the puppet craft sticks through the slits in the plate. Students should hold the stick/puppet vertically so that it “stands” erect. They may tilt the plate/habitat or hold it in a horizontal position (see illustrations to the right).



5. Ask each student to share his/her puppet's habitat with the rest of the class. You may have students display their habitats in different parts of the room.
6. Create a two-column class chart listing how plants and animals are alike and different. (For the benefit of those students who do not read yet, you may want to decorate the chart with pictures of plants and animals that you have drawn, or with pictures cut from newspapers and magazines.) Invite students to volunteer information to complete each half of the chart.

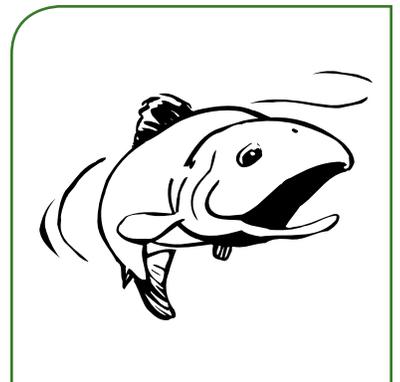
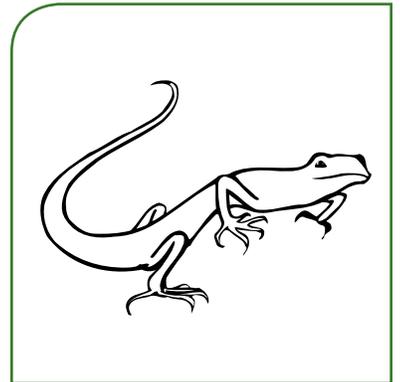
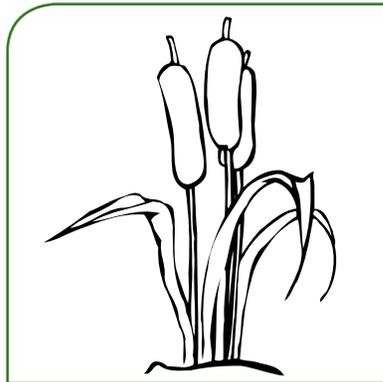
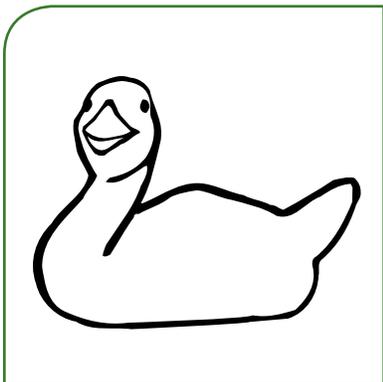
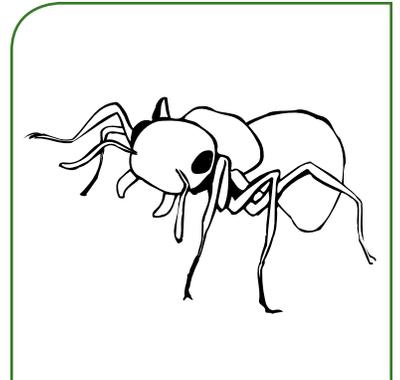
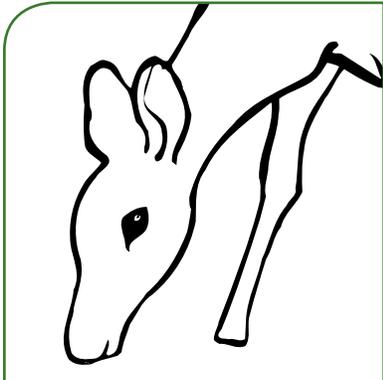
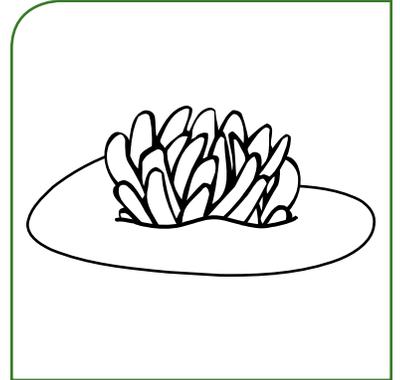
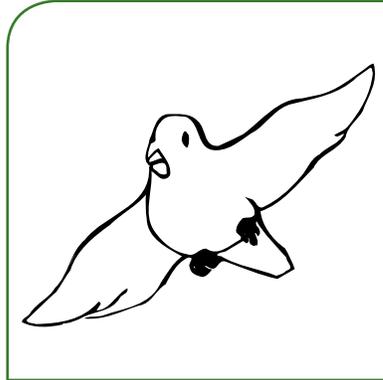
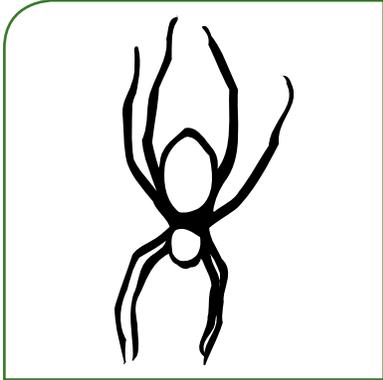
**Note.** After this activity, students should be able to identify some or all of the characteristics typical of plants and animals, as shown in the sidebar to the left.

### Part 2. Silly scenario

1. To assess students' understanding of how animals and plants are alike and different, ask silly scenario questions based on characters in the *My World and Me* story book. (You may want to dramatize the concepts with the students playing roles.) The following are just a few examples.
  - Can a water lily climb onto the log with Tillena Lou?
  - Does Tee have leaves?
  - Does the deer produce her own food through photosynthesis?
  - Can Tillena Lou fly to the bird's nest?
  - Do Taffy, Tee and Tillena go to a farm to grow their own food?
  - Can a bee swim underwater?
  - Can lizards live on the surface of water?
  - Can the cattails eat a hamburger?
  - Does a duck drink its water from a glass?
  - Do spiders produce seeds?
2. After students have responded to the questions, discuss how the organisms in question actually behave.
3. Divide students into groups and have each group come up with its own silly scenario to share with the rest of the class or to dramatize using its puppets. OR have students create a class book with their scenarios.



# Tillena Lou's World





# My Science Journal

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Name \_\_\_\_\_

Date \_\_\_\_\_

Project Name \_\_\_\_\_

**DRAWING**

**KEY WORD  
TO USE**

**I OBSERVED . . .**

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