

Get Connected

When you think about forests, do you just think about trees? A forest **is** a large area of land covered by trees, but that's not all! A forest is a community of **many** different living things.

But that's not quite it yet! All forest communities are **not** alike! A forest community in northern Wisconsin will be much different from a forest community in southwestern Wisconsin. In fact, a mature forest will be much different from a young forest just a few miles away.

The key is habitat! A habitat is the place where a plant or animal gets all the things it needs to survive, such as food, water, shelter, and space for having and raising offspring. Animals and plants that share the same basic habitat form a community. Within the community, the living things are connected to each other—they depend on each other. Totally! In this activity, your students will investigate two forest habitats—a mature, mixed forest and a young forest.

Getting Ready

1. Check to ensure the CD-ROM is installed and working properly.
2. Make a copy of the **Get Connected** worksheet for each student.
3. Collect several children's reference books focusing on forests.

Doing the Activity

1. Be sure that each student or small group of students has a chance to use the CD-ROM. They should go to the main menu and select the *Environment* section. After a short introduction, they will be instructed to visit two virtual forests. One is a mature, mixed forest of evergreen and broad-leaved trees. The second shows a young forest that has been harvested and is regrowing. forests, discuss the conditions in the two forests and the different animals that live there. Talk about how a young forest—with its thicker understory—provides more food and cover for wildlife than a mature forest. Remind students that there are also some animals that must have large areas of mature forests to survive. Point out that a diversity of forests is needed to support a diversity of animals.
2. After everyone has had a chance to visit the virtual



Method

Students research forest animals and discover how they are connected to other organisms in the forest ecosystem.

Key Concepts

Forest ecosystems contain many habitats that support diverse populations of organisms.

Everything in a forest ecosystem is connected in an intricate web of interdependency.

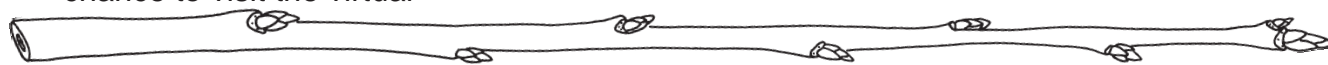
Diversity in the types, sizes, and density of forest trees promotes diversity in wildlife.

Objectives

- recognize the diversity of life present in a forest ecosystem
- investigate how one animal is connected to many other plants and animals in a forest food web

Subjects & WI Academic Standards

Science:
A.4, B.4, C.4, E.4, F.4
C.8, F.8



Standards Cont.

English/Language Arts:
A.4, B.4, C.4, E.4, F.4,
A.8, B.8, C.8, E.8, F.8

Environmental Education:
A.4, B.4
A.8, B.8

Materials

- CD-ROM
- copies of student page
- children's forest reference books

Preparation

Time

15 minutes

Activity Time

2 50-minute class periods

Setting

classroom

3. There are 19 animals represented on the CD-ROM. Ask each student to choose one animal. Be sure all of the animals are chosen at least once. Here is a list of the animals for your reference:

Mature, Mixed Forest

black bear
wild turkey
bald eagle
eastern gray squirrel
barred owl
raccoon
wood duck
wood turtle
loon
beaver

Early Successional Forest

white-tailed deer
ruffed grouse
red fox
fox snake
red-tailed hawk
cottontail rabbit
badger
eastern chipmunk
downy woodpecker

4. Students should research the animals they have chosen. Hand out the
5. Ask students to draw their animals in forest scenes. Refer them to the CD-ROM if they need help depicting either the mature or young forest where their animals live. Using the information they have gathered, ask them to add other plants and animals to the pictures. They should add everything their animals need to survive.
6. Share the finished pictures with each other and post them on a bulletin board.

student worksheets and go over the questions. Talk about where students should go to find out the information they need. There will probably be some unfamiliar organisms on the worksheet. Work together as a class to figure out what each organism does and how it might fit into the forest ecosystem. Try to provide good resources for students to use. See the **Appendix** for a list of forest reference books.

Assessing Student Understanding

Assess student ability to conduct independent research.

Evaluate students' research for accuracy and completeness and their presentations for creativity and organization.

Extending the Learning

Explore a Local Community

In many ways, a forest community is like a human community. The *Wisconsin's Millennium Tree* activity "Forest Community" compares the two types of communities and explores the habitats of animals and plants in a forest community.

Share a Story

Your students can read about the forest to students in younger grades. Choose some of the books from the listing of children's fiction in the **Appendix**. Good books about the forest community include:

- ✦ *Birth of a Forest* by Millicent Selsam
- ✦ *The Gift of the Tree* by Alvin Tressalt
- ✦ *The Grandpa Tree* by Mike Donahue
- ✦ *Once There Was a Tree* by Natalia Romanova

Create a Forest Mural

Using a refrigerator box or large bulletin board, draw a forest scene. Select a few students to do the initial outline drawing. It might look something like this drawing.

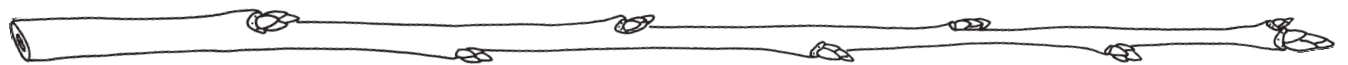


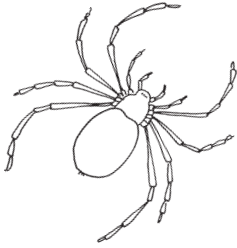
Meanwhile other students can be drawing and coloring pictures of forest plants and animals. Glue or tape the animals in place. Place a push pin next to each plant or animal. Use yarn to connect each member of the forest community to the other parts of the community it needs to survive. Form food chains and food webs with different colored yarn or string. For more ideas, see the activity "Web of Life" in *Project Learning Tree*.

Investigate a Mini-Habitat

A forest community is actually made up of many smaller interrelated communities. Try one or two of these activities to help your students understand this concept:

- ✦ The *Project WILD* activity "Learning to Look, Looking to See" encourages a close look at the environment. Grades K - 8.
- ✦ The *NatureScope: Trees Are Terrific!* activity "Rottin' Place to Live" investigates a fallen log community. Grades K - 7.





- ✦ The **Project Learning Tree** activity “The Forest of S. T. Shrew” takes a “shrew’s eye view” of life in the woods. It will help your students gain an appreciation for the variety of habitats within forests. Grades 1 - 6.
- ✦ The **NatureScope: Trees Are Terrific** activity “Under Cover!” looks at the animals that use a tree by making a “peek-a-tree.” Grades K - 5.

Investigate Endangered Species

Focus on Wisconsin’s endangered and threatened species that live in the forest. Visit the Endangered Resources website (www.dnr.state.wi.us/org/land/er/rare.htm) for an up-to-date listing. The greatest problem that threatened and endangered animals face is habitat loss. Learn more about this need for space in these activities:

- ✦ The **Project WILD** activity “Too Close for Comfort” investigates the amounts of space different animals need.
- ✦ The **Project Learning Tree** activity “Life on the Edge” encourages students to become advocates for endangered species of plants or animals. After learning about habitat loss, students create “public relations campaigns” for these species.

Bring the Forest into Your Backyard

Sustainable forestry practices are just as important in urban, suburban, and rural backyards as they are in large forests. Plant native trees, shrubs, and wildflowers. Add water, and voila . . . you have the perfect habitat for many birds, amphibians, reptiles, insects, and small mammals. Check out these resources:

- ✦ **DNR Service Centers** and your local state park can provide you with construction plans for wild houses! Bluebirds, wood ducks, and bats will appreciate your efforts.
- ✦ **DNR - Division of Forestry** offers two publications to help you plan: “Woody Cover for Wildlife” (FR-066) and “Wind Breaks that Work” (FR-070).
- ✦ **National Wildlife Federation’s Backyard Wildlife Habitat** program and **Schoolyard Habitats** program also offer good suggestions for enhancing wildlife habitat. www.nwf.org/habitats
- ✦ **School Nature Area Project (SNAP)** is a cooperative project between St. Olaf College and several Minnesota schools designed to enhance school areas. www.stolaf.edu/other/snap

- ✦ ***Wildlife and Your Land: A Series About Managing Your Land for Wildlife*** published by the WDNR's Bureau of Wildlife Management. It offers many suggestions for improving wildlife habitat.

Get Involved with Wildlife Research

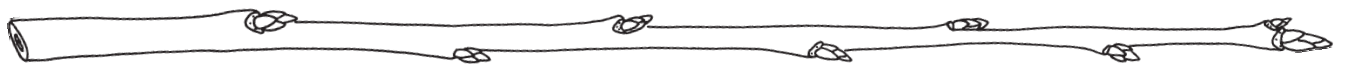
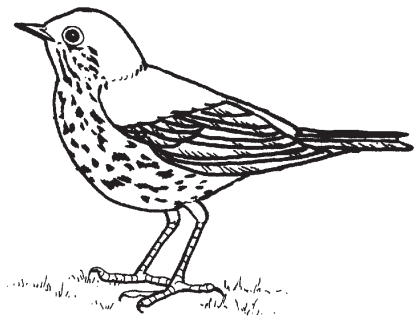
Since animals depend on forest ecosystems, we can learn a lot about the forest by monitoring animal populations. Find out about these opportunities for students to be involved in gathering data:

- ✦ ***Christmas Bird Count***
Wisconsin Audubon Society
3118 N. Oneida Street, Appleton, WI 54911, (414) 735-9903
- ✦ ***Classroom FeederWatch***
Cornell University
<http://birdsource.cornell.edu/cfw>
- ✦ ***Fourth of July Butterfly Count***
North American Butterfly Association
www.naba.org
- ✦ ***Journey North***
Journey North
www.learner.org/jnorth
- ✦ ***Midwest Sandhill Crane Count***
International Crane Foundation
P.O. Box 447 Baraboo, WI 53913-9778, (608) 356-9462
www.savingcranes.org
- ✦ ***Wisconsin Frog and Toad Survey***
Wisconsin Department of Natural Resources
Bureau of Endangered Resources
P.O. Box 7921, Madison, WI 53707, (608) 267-0849

Volunteer Your Muscles!

Help at a habitat restoration "work day." Here are some possibilities for involvement:

- ✦ ***Adopt-A-Lake***
UW-Extension, College of Natural Resources
University of Wisconsin - Stevens Point
Stevens Point, WI 54881
<http://uwexplakes.uwsp.edu/Adopt-A-Lake>
- ✦ ***DNR's Natural Areas Program***
Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707
www.dnr.state.wi.us/org/land/er/snas.htm



✦ **The Nature Conservancy**

633 W. Main Street, Madison, WI 53708, (608) 251-8140
www.tnc.org

✦ **Water Action Volunteer (WAV) Program**

Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707, (608) 264-8948
<http://clean-water.uwex.edu/WAV>

Remember . . . Be a Good Steward Every Day

Put into practice the things you believe will help the earth and its inhabitants. Set a good example for your students. Pick up litter, recycle, conserve energy, shop wisely, and always look for new ways to care for the Earth.

Finding Out More!

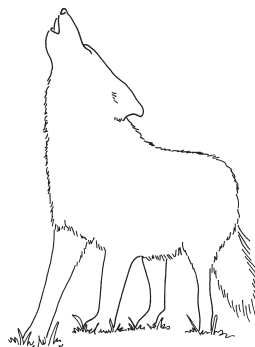
eNature. This new nature portal offers online searchable field guides to over 4,800 plant and animal species. It is derived from 35 different Audubon Society Field Guides, Regional Guides, and Nature Guides. The database is keyword-searchable by group (mammals, amphibians, fishes, trees, etc.) or browseable within subheadings for each group. The field guide entries include a large thumbnail image, description, and varying additional information. While the field guides alone make the site worth a visit, there is more, including an Ask an Expert message board, Habitat Guides, news features, tips for teachers, personalized “life lists,” and in the future, a comprehensive Outdoor Planner.
www.enature.com

NatureScope: Trees are Terrific. The background information in “The Forest Community” contains good basic information about forest ecology.



Student Page

Get Connected



I chose a _____

It can be found in a . . .

- mature, mixed forest young forest almost any forest

I found at least three references about my animal.

Here are the sources I used in my research (List title, author, website, or publication):

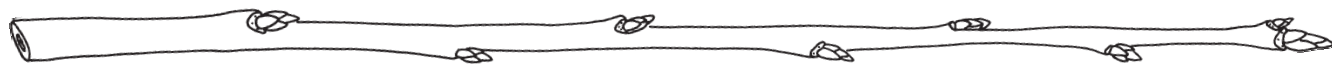
I know that my animal could not survive on its own.

It depends on other living things in the forest community.

My animal depends on the following types of animals.

Check all that apply. On a separate piece of paper, make notes about how your animal depends on them.

- | | | |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Sponges | <input type="checkbox"/> Arachnids (Scorpions, Daddy Longlegs, Ticks, & Spiders) | <input type="checkbox"/> Amphibians (Salamanders, Frogs, & Toads) |
| <input type="checkbox"/> Hydras | <input type="checkbox"/> Centipedes | <input type="checkbox"/> Reptiles (Turtles, Lizards, & Snakes) |
| <input type="checkbox"/> Flatworms | <input type="checkbox"/> Millipedes | <input type="checkbox"/> Birds (Birds of Prey, Songbirds, Waterfowl, Shore Birds, Game Birds, Woodpeckers, etc.) |
| <input type="checkbox"/> Nematodes | <input type="checkbox"/> Insects (Grasshoppers, Dragonflies, Bugs, Beetles, Butterflies, & many, many more) | <input type="checkbox"/> Mammals (Carnivores, Rodents, Bats, Deer, Weasels, etc.) |
| <input type="checkbox"/> Rotifers | <input type="checkbox"/> Other Invertebrates | <input type="checkbox"/> Other Vertebrates |
| <input type="checkbox"/> Moss Animals | <input type="checkbox"/> Fishes (Trout, Bass, Chub, Lampreys, etc) | |
| <input type="checkbox"/> Earthworms & Leeches | | |
| <input type="checkbox"/> Snails & Slugs | | |
| <input type="checkbox"/> Mussels & Clams | | |
| <input type="checkbox"/> Crustaceans (Fairy Shrimps, Crayfishes, Sowbugs, & Water Fleas) | | |



My animal depends on the following types of plants.

Check all that apply. Make notes about how your animal depends on them.

- | | | |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Liverworts | <input type="checkbox"/> Coniferous Trees (Pines, Spruces, Firs, Hemlocks, Cedars, etc.) | <input type="checkbox"/> Wildflowers (count the number of petals or compare leaves to separate the species) |
| <input type="checkbox"/> Mosses | <input type="checkbox"/> Deciduous Trees (look for differences in the leaves to separate the species) | <input type="checkbox"/> Grasses & Sedges |
| <input type="checkbox"/> Ferns | <input type="checkbox"/> Shrubs (look for leaf variations) | <input type="checkbox"/> Aquatic Plants (Pondweeds & Duckweeds) |
| <input type="checkbox"/> Horsetails | <input type="checkbox"/> Vines | <input type="checkbox"/> Other Green Plants |
| <input type="checkbox"/> Club Mosses & Spike Mosses | | |
| <input type="checkbox"/> Ginkgoes | | |

My animal depends on the following strange organisms.

Check all that apply. Make notes about how your animal depends on them.

- | | | |
|---------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------|
| <input type="checkbox"/> Bacteria | <input type="checkbox"/> Dinoflagellates | <input type="checkbox"/> Bracket Fungi |
| <input type="checkbox"/> Blue-green Algae | <input type="checkbox"/> Red Algae | <input type="checkbox"/> Puffballs |
| <input type="checkbox"/> Euglenoids | <input type="checkbox"/> Stoneworts | <input type="checkbox"/> Mushrooms |
| <input type="checkbox"/> Parameciums | <input type="checkbox"/> Slime Molds | <input type="checkbox"/> Other things that are not like familiar things! |
| <input type="checkbox"/> Amoebas | <input type="checkbox"/> Algal Fungi | |
| <input type="checkbox"/> Green Algae | <input type="checkbox"/> Yeasts | |
| <input type="checkbox"/> Brown Algae | <input type="checkbox"/> Molds | |
| <input type="checkbox"/> Yellow-green Algae | <input type="checkbox"/> Mildews | |
| <input type="checkbox"/> Golden-brown Algae | <input type="checkbox"/> Morels | |
| <input type="checkbox"/> Diatoms | <input type="checkbox"/> Lichens | |

The most interesting thing I learned about my animal is . . .

Note:

This list includes most of the groups of living things that can be found in North America. Wow! Just the list alone reminds us of all the living things that share this planet with us. That's a lot of biodiversity! You won't find representatives of each group in a forest ecosystem. (You can't even see some of these living things without a microscope!) Just use the list to remind you of the categories of living things you might consider. Good luck!

