

Lesson 5: Animals Need Forests Too

NUTSHELL

In this lesson – located in the classroom, schoolyard, or other open space large enough to play Musical Needs – students explore what the forest provides for its animal residents. Cooperatively, students create a forest ecosystem with their classmates. Finally, they enter the forest as animals in search of food, water, shelter, and space.

ENDURING UNDERSTANDING

- Forests impact air and water quality, prevent soil erosion, and provide habitat for wildlife.

ESSENTIAL QUESTION

- What resources do forests provide to animals to meet their need for habitat?

OBJECTIVES

Upon completion of this lesson, students will be able to:

- Identify the basic needs of animals (food, water, shelter, space, air).
- Recognize that forests must contain all the basic needs of an animal for it to live there
- Draw ways forests provide homes for animals.

SUBJECT AREAS

Arts, Science

LESSON/ACTIVITY TIME

Total Lesson Time: 100 minutes

- Introduction30 minutes
- Activity 125 minutes
- Activity 225 minutes
- Conclusion20 minutes

STANDARDS CONNECTIONS

Standards for this lesson can be viewed online at the LEAF website (www.leafprogram.org).

BACKGROUND INFORMATION

What are your **basic needs**? We all have them. Do you need air conditioning? Cable television? Internet service? Would you list easy access to a shopping center and a good Chinese restaurant among your needs? Odds are that many of the things on our needs list might not truly be needs. Although we seem a great deal distanced from the white-tailed deer, red squirrel, and pileated woodpecker of Wisconsin's forests, when the excess is cleared away, we all still have to meet the same basic needs. All animals – humans included – need to meet five basic needs to survive: food, water, shelter, space, and air.

Forest animals have to have enough **space** to meet their other basic needs. Wolves, foxes, and bears all have territories that they live in. The amount of space that is included in these territories is important in terms of social interactions and the amount of resources within that territory. Too many animals in an area competing for resources means that some won't survive. A representation of the human need for space is urban sprawl. In Wisconsin, we have space in which to spread our larger cities and suburbs. The cost at which this comes is quite frequently the loss of space for animals. The urban interface refers to the area where wild lands (and the animals living in them) and human developments meet. With this decrease in space, animals adjust and adapt, frequently to the chagrin of their new neighbors.

VOCABULARY TERMS

Basic Needs: The minimum conditions that need to be met for something to continue to live. The five basic needs of animals are food, water, shelter, space, and air.

Food: What a living thing eats for energy.

Habitat: A place where a plant or animal can get the food, water, and shelter it needs to live.

Shelter: The materials that a living thing uses to keep itself safe from weather and other elements.

Space: The area that a living thing needs to grow.

In a forest, animals browse, graze, hunt, and stalk **food** in an exciting array of styles! They are categorized by what they dine upon. Some animals are herbivores. These animals subsist on plant material. Another set of animals are known as carnivores. Carnivorous diets consist mainly of other animals. Finally, omnivores eat a mix of both plant and animal materials.

Water is essential to all living things. Humans may eat different food than a robin eats, but we need water just as a robin does. Forest animals meet their needs for water by using the resources at hand. If an animal lives in a forest with a river flowing through, it drinks from this resource. If a wetland or lake is nearby, animals go there to drink. The protection of watersheds is important to forest- and city-dwellers alike, as man-made pollution affects both.

Animals, unlike plants, can move to seek **shelter** from the elements. Certain animals require very specific places in which to make their home.

MATERIALS LIST

For Each Student

- Large sheet of paper (11" x 17")
- Crayons or markers
- Scissors
- Glue

For Every 2 Students

- One carpet square
- One set of *Basic Needs Cards* (one food, one water, one shelter) cut from Teacher Pages 🍷1-3, *Basic Needs Cards*

For the Class

- One pine cone, or alternative forest item/product
- Magazines containing pictures of Wisconsin forest animals
- Timer (optional)

TEACHER PREPARATION

Write the Basic Needs song on sentence strips or chart paper (optional).

Other animals are more flexible and adapt easily to a variety of environments. Without a healthy forest in which to meet all its needs, an animal will not exist in a given area. A healthy forest provides resources for animals to grow and thrive.

Air is also a basic need of all living things. Air is essential for respiration and oxygenating the blood. Unlike the other basic needs, air is nearly always in constant supply and is found almost everywhere, so animals do not need to compete for it.

PROCEDURE

Introduction - Wisconsin Animals

1. Invite students to sit in a circle. Tell them that they are going to play a quick game of Hot Pine Cone to warm up their brains for today's activities. This game is played in a manner similar to Hot Potato. Show the pine cone. Tell students to use their imagination to pretend with you. This pine cone loves to hear great thinking about how the forest is used, but it gets very, very impatient. They will pass the pine cone around the circle, from person to person. When the pine cone is in their hands, they need to share one animal that lives in a forest. Tell students that it would be even better if they could share an animal that lives in a forest near their town or in a Wisconsin forest. If the pine cone sits in their hands too long, it starts to get very hot. It only cools down when passed to the next person.
2. Hand the pine cone to the first student. Instruct him/her to begin by sharing a forest animal that they know, then pass the pine cone to the next person. Include yourself in the circle and share your favorite Wisconsin forest resident. (Examples: black bear, bobcat, coyote, fox, white-tailed deer, beaver, rabbit, fisher, squirrel, mink, muskrat, opossum, raccoon, otter, weasel, chipmunk, skunk, woodcock, quail, pheasant, grouse, turkey, goose, wood duck, sandhill crane.) When everyone is finished, ask for the pine cone back and explain their next job.
3. Inform students that they will search magazines for a picture of an animal that they think might live in a Wisconsin forest. To give students a general idea and assess if they are headed in the right direction, ask: Have you ever seen a parrot perched in a tree by your house? (*No.*) How about a monkey walking down your street? (*No way.*) Do you think that those things live in forests in our state? If you're still getting "no" replies, things are looking good. Proceed to verbally paint a picture of wildlife that could be present in different forested regions of our state. Ask: Have you seen a bunny hop across our playground? (*It is likely.*) Do you have squirrels in your neighborhood? (*Yes.*) How about giraffes? (*No.*) Do you think there are black bears in Wisconsin forests? (*Yes.*) How about polar bears? (*No.*) As you see that students understand that you're looking for Wisconsin animals, release them to find a picture in the magazines you have set out. Ask them to cut it out. As students hunt for their pictures, circulate and assist as necessary.
4. Gather back in a circle and ask each student to hold his or her picture so others can see it. Allow each student to tell what creature they found to share with the group. Undoubtedly, some children will share species that don't reside in our forests. For the objectives of this activity, this is quite all right and expected. Tactfully point out those that don't live in Wisconsin, but have similarities to Wisconsin animals. (We don't have tigers or lions, but we do have bobcats. We don't have giraffes or gazelles, but deer eat plants. We don't have flamingos, but we do have herons.)
5. Ask if anyone can remember what a tree needs to survive. (From Lesson 1 – nutrients, sunlight, space, air, and water.) Tell students that animals need similar things to live and grow. People are animals too! Tell students that we get our energy by eating food, instead of from our leaves that make it. Explain that we also need water. We drink it through our mouths instead of using roots to absorb it. Ask students if they think we need space. (*Yes.*) Elaborate that we, too, need space to live.

Without enough space, or room, we wouldn't be able to comfortably live and play. Explain to students that we also need another thing that forest trees don't need. Ask if anyone can think of what this may be. Assist students in understanding that we also need shelter to help protect us from the weather. Trees can survive in the hot sun and the cold snow, but humans and other animals need some sort of shelter to survive. The final basic need is air that we all breathe. This need is different from the others because we do not need to compete for it. Tell students that they will need to store this important information away for the next game they'll be playing together. Review and highlight that animals need: FOOD, WATER, SHELTER, SPACE, and AIR.

eat a mix of both (omnivores), as we humans do. Give some examples of food animals might eat in the forest. (*Squirrels eat acorns, beavers eat trees, birds eat beetles and insects, bears eat berries.*) It is not important that five- to seven-year-olds are 100 percent accurate along dietary guidelines. Just make sure they know that animals need to find food to eat, and they can't pick up a phone to order in.

Activity 1 - Forest Habitats

1. Tell the class that together, they are going to make a pretend Wisconsin forest for their animals to live in. Give a piece of 11" x 17" paper to each student. Have them glue their magazine animal onto the paper. Have them write their names or initials on the back and wait for your next direction. Ask again what animals need. (*Food, water, shelter, space, air.*) Tell students that they will need to have their thinking caps on to help the animals survive. Together, they'll be creating the animals' forest **habitat**, or home in the forest. Whatever the animals need to live in their forest will have to be drawn by them. In a real forest, animals would need to hunt or forage to find their food. These animals are lucky that we're going to help them! (Setting a timer may be helpful to keep students on track and make progress in this activity.)
2. Instruct students to pass their papers to someone across the table. Explain that they will each draw FOOD that the creature in front of them may eat in their forest home. Feel free to discuss with students that some animals eat mostly plants (herbivores), while other animals eat mostly meat (carnivores), and still others
3. As students finish drawing food for the animal, instruct them to pass the picture to the person next to them. This person will illustrate how the forest animal may find WATER. Ask students if there are drinking fountains in the forest. (*No.*) Remind them to be as realistic as possible in their pictures and use their imagination to create a way for this animal to meet its basic need of having water. Give some examples of water sources for animals in the forest. (*Pond, wetland, stream, rainfall.*)
4. As time winds down tell children to pass their picture again, to another new person. The next person will illustrate SHELTER. Discuss options in the forest for shelter. (*Hollow trees, logs, nests, tree tops.*) There aren't too many apartment complexes in the forest. Ask: Where do you imagine this animal would live? Do they live in a tree? Do they burrow in the ground or build themselves a nest in the grass? Praise the class' creativity in helping their animal to find shelter from the elements.
5. Have the class pass the pictures one last time, and have everyone check to see if there is still enough space for the animal to live. Ask: What else may be in the picture that would utilize this space in the forest? Is there room for their offspring? How about space to stretch and move? Ask students what the basic need that we all have but cannot see. (*Air.*) Ask them to turn the sheet over and find out who the original owner is and return it to him or her. Ask one last time: What do animals need? FOOD, WATER, SHELTER, SPACE, and AIR! Does your animal have everything it needs to survive?

Activity 2 - Basic Needs

- Before proceeding to play Musical Needs, prepare for the game. Arrange carpet squares in a large circle so that there is one square for every two children. Spread out the food, water, and shelter cards (face up) from Teacher Pages **1-3, Basic Needs Cards** in the center of the circle. The number of food cards, water cards, and shelter cards that you put in the center should each be equal to the number of carpet squares that you are using for this game. For example, if you have 20 students, you will have 10 carpet squares, 10 food cards, 10 water cards, and 10 shelter cards.

- Explain to students that you'll be playing a game with them and they need to know a song to play the game. Introduce and practice the Basic Needs song sung to the tune of "Row, Row, Row, Your Boat." (The alternative Basic Needs song can be sung to the tune of "The Addam's Family" theme song.)

*Food, air, water, shelter, space –
Animals need these!
Food, air, water, shelter, space –
We need these to live!*

*Basic needs! (snap, snap)
Basic needs! (snap, snap)
Basic needs! Basic needs!
Basic needs! (snap, snap)
There's food, air, and there's water.
There's shelter and there's space!
And where can you find it?
In a forested place!
Basic needs! (snap, snap)
Basic needs! (snap, snap)
Basic needs! Basic needs! Basic needs!
(SNAP, SNAP!)*

- Following the introduction of the Basic Needs song, explain to students how to play the Musical Needs game. The object of this game is for students to end up on a carpet square that meets all of their basic needs as a forest animal. Tell students that the carpet squares represent space and they will gather food, water, and shelter in the form of cards from the center of the circle. Explain that there are no air cards because air is all around them. The objective is for all students to survive in the forest by meeting all their basic needs.

The rules and procedure are as follows:

- Students choose or are assigned a partner. One partner will stay on the carpet square (the home partner) and one (the gathering partner) will leave to gather food, water, or shelter when you tell them to. If appropriate, discuss how some animals exist with a mate. One mate is providing protection of their home territory (or young) while the other searches for other necessary things to live.
- Each set of partners chooses a carpet square. This is the space that they, as forest animals, need to live.
- When all pairs are standing on a carpet square, the class begins to sing the Basic Needs song. They will walk in a circular manner from carpet square to carpet square.
- When singing ends, students stop walking and stand on the carpet square they ended on.
- When the teacher indicates, the gathering partners may walk to the center of the circle and take one card. Don't tell students at this point that they will eventually need to gather one of each food, water, and shelter card; just let them choose at random.
- After the gathering partners have picked up cards, they return to the home partners and set the needs cards on the carpet square.

- g. Once all students have set their cards down, begin singing the Basic Needs song as students continue around the circle in the same fashion as before.
- h. When the song stops, students find a spot and wait for your signal to retrieve their second card. They do not need to return to their original square.
- i. Following their return with card #2, sing, move, and collect the last card.
- j. Ask for a show of hands to indicate who is in a place (on a carpet square) that meets all of their basic needs. There may be several who are on such a spot. If students weren't careful to note what card was on their square prior to gathering cards, there are probably several groups that didn't meet this objective. Ask students if there are any cards left in the center. *(No, there shouldn't be any food, water, or shelter cards left.)* Ask why everyone didn't meet their basic needs. *(Because some squares have two waters. Because I didn't think I had to have all of those cards to survive.)* Tell students that you didn't put out extra food, water, or shelter in this game, only enough for everyone to get what they needed. Explain that in a forest, sometimes there are extra things, but other times there is just enough to allow animals to survive.
- k. Tell students that you'll play the game again, but first you want to know what they'll do differently to help all of the animals survive. *(I'll look and make sure I only get what my carpet square needs.)*
- l. Play the game as before and discuss the outcome of this period of play. Hopefully, all groups met their basic needs this time. Ask what made them successful this time. *(We knew to get only what we needed. I made sure that I looked at what I had on my carpet square before I picked a new card, etc.)*

Conclusion - Basic Needs Challenges

Replay with these variations. Remind students that forests must provide ALL of the basic needs for animals living there to survive.

- Impose a drought on your groups' forest. Take away several water cards and discuss the outcome. *(Some groups didn't meet all of their basic needs because there wasn't enough water.)*
- Have a fire sweep through your forest. Take away some food cards and a shelter card then discuss the outcome. *(The fire took away food and shelter, inhibiting some animals from being able to get everything they needed to survive.)*
- Have people develop your forest. Take away space, food, and shelter because people built houses in the forest.

CAREERS

The career profile in this lesson is about Marty Johnson, Wildlife Biologist, Wisconsin Department of Natural Resources, and is found on page 76. A careers lesson that uses this information begins on page 80.

SUMMATIVE ASSESSMENT

Choose a common Wisconsin animal such as a squirrel, deer, or rabbit. Tell the class to draw a story about that animal. In their story, they must show the animal meeting all of its basic needs. Depending on the ability of students, words may be added to the story.

SOURCE

Young, R. A., & Giese, R. L. (1990). *Introduction to Forest Science*. New York: John Wiley & Sons.

Career Profile

Marty Johnson, Wildlife Biologist

Marty Johnson is a wildlife biologist. A wildlife biologist has a lot of different things to do. Marty works outside, seeing what kinds of animals live in certain places and helping to make those places better for wildlife. He also works inside, planning what he needs to do and deciding how much money he can spend. A lot of the things he does helps hunters and trappers in Wisconsin. Those same things also help other people, such as birdwatchers, hikers, wildlife photographers, students, and teachers! Since Marty works in the southeastern part of Wisconsin, where a lot of people live, a big part of his job is working with people.



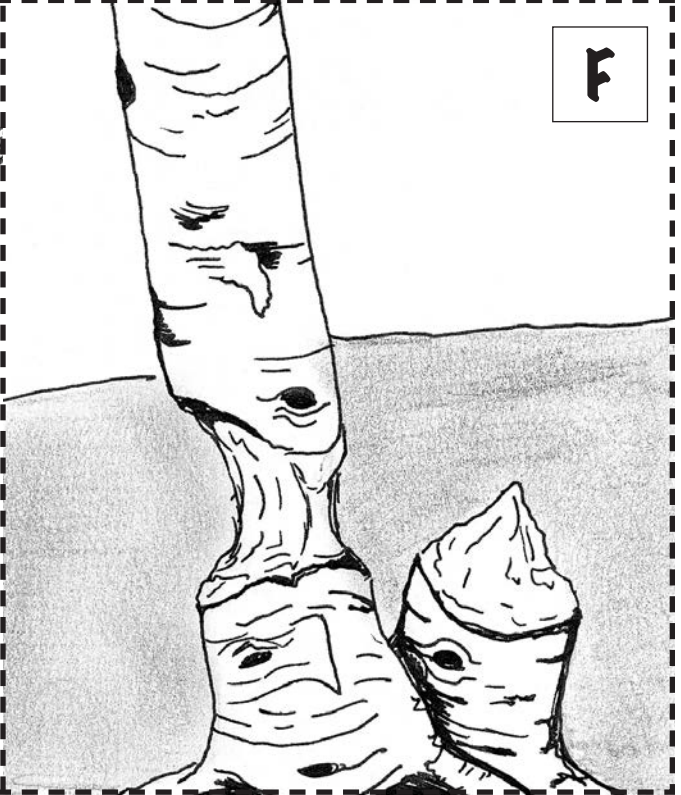
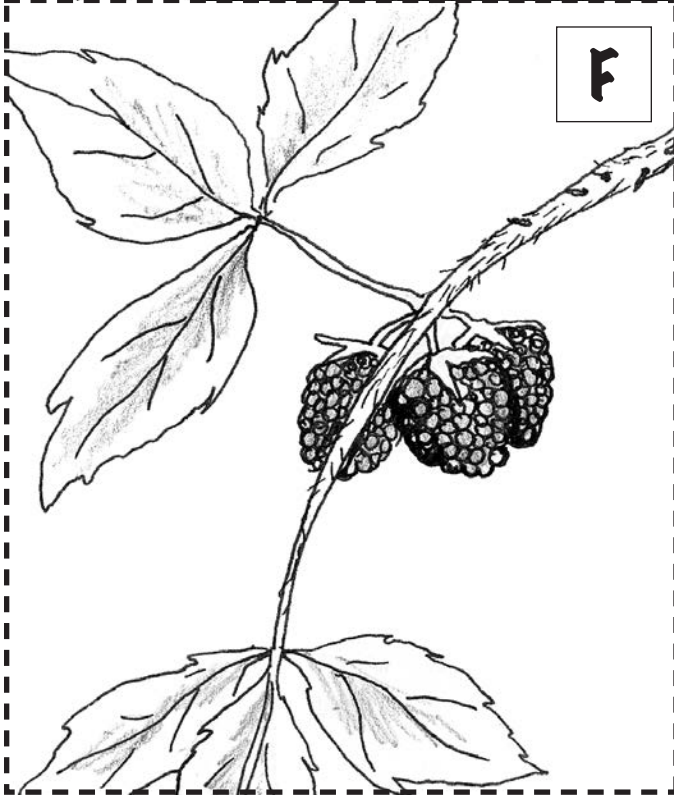
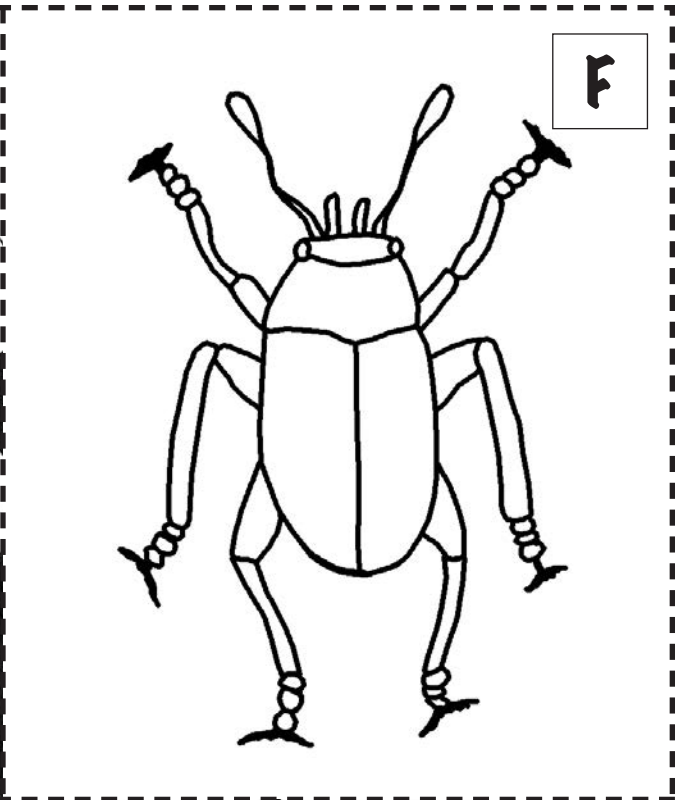
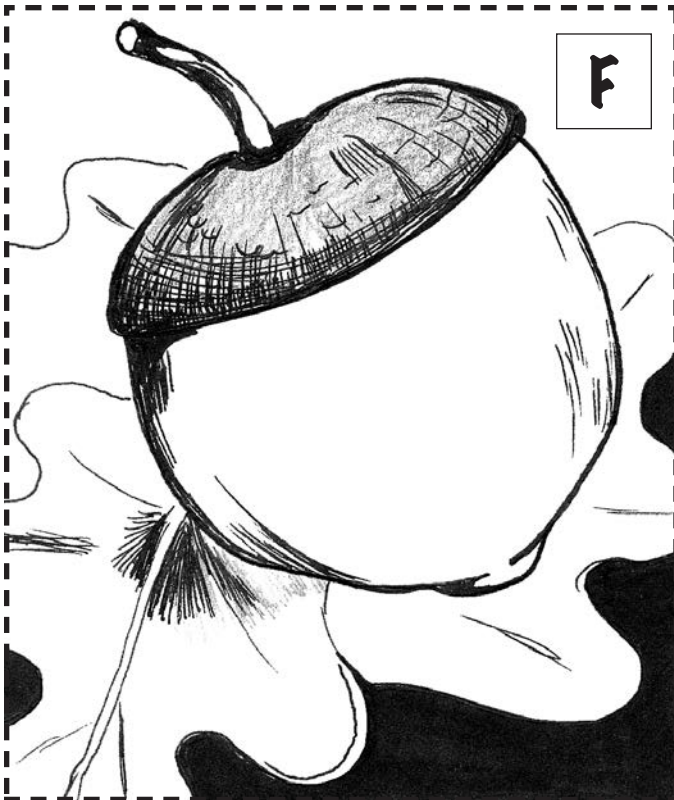
Marty works for the Wisconsin Department of Natural Resources. In order for him to be a wildlife biologist, he went to college and studied wildlife ecology. While he was in college, Marty got to study birds in Everglades National Park in Florida. He also worked in Wisconsin and California to learn more about wildlife and other things that are good to know.

Marty says his favorite part of his job is being able to work closely with animals and work outside, at least every once in a while.

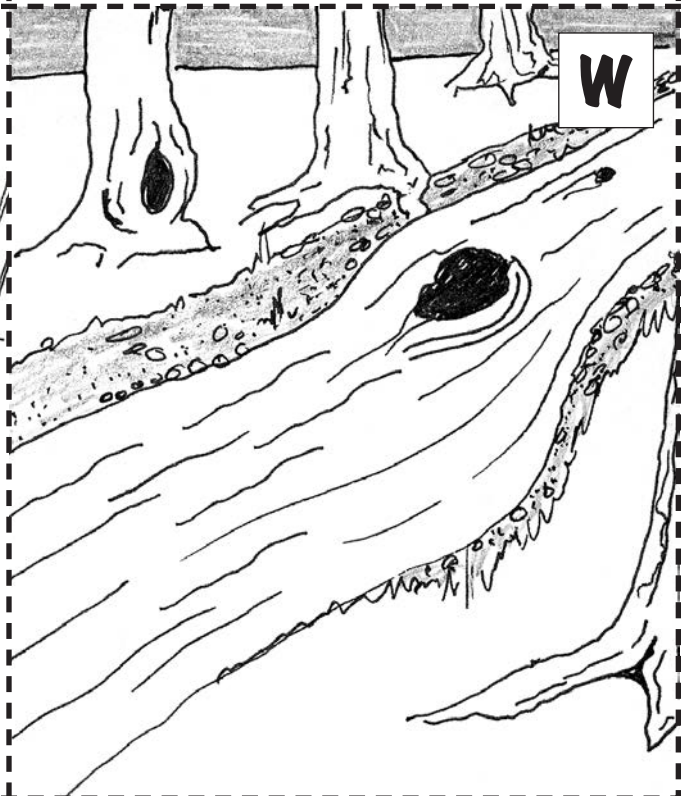
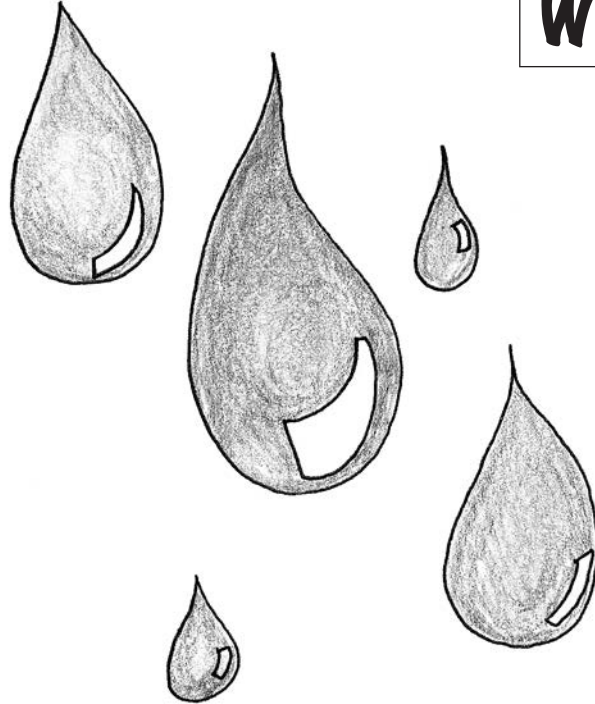
If you want to become a wildlife biologist, Marty says you should learn as much as you can by reading and spending time outdoors. He says it is a good idea to take up an outdoor hobby like birdwatching or hunting.

This is Marty (in the circle) with a group of volunteers counting rare flowers.

BASIC NEEDS CARDS



BASIC NEEDS CARDS



BASIC NEEDS CARDS

