NAME Dani VanEpps AGE 12

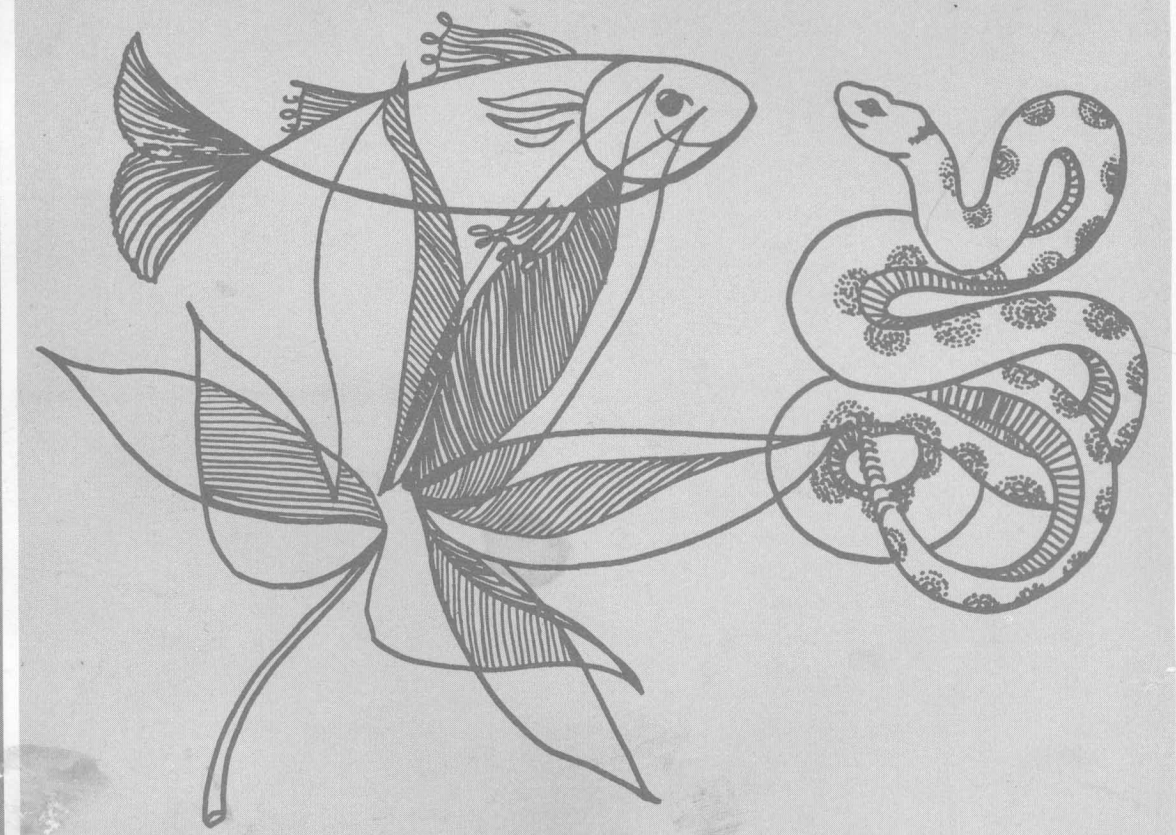
CLUB The Buckeyes

ADVISOR Mrs Lenox

COUNTY Tuscarawas

LET'S EXPLORE THE OUTDOORS !

CONSERVING OHIO'S NATURAL RESOURCES



COOPERATIVE EXTENSION SERVICE / THE OHIO STATE UNIVERSITY / COLUMBUS, OHIO 43210

TO YOUNG EXPLORERS EVERYWHERE!

Boys and girls everywhere can be the Daniel Boones and Davy Crocketts of today. There are things to find and places to look where you can find all sorts of things which are new to you. (The fact that the Indians already knew America, didn't dull Columbus' discovery.) It's finding new things that makes exploring so thrilling. If you are really good explorers, you will find things no one has found before.

This booklet is your "treasure map"—your route to a brand new world. The outdoors is your wilderness, you are the pioneer scout. It can be just as exciting for you as the wilderness was to Boone and Crockett. We'll even bet you will see things they never saw.

It doesn't matter whether you're a Scout, a 4-H'er or do not now belong to any organization. It doesn't matter whether you're a girl or boy, a country lad or a city dweller, you can be an explorer.

Bon Voyage!

My Diary of Project Activities

Outdoorsman kit completed (date) _____

Exploring trip to woods completed (date) _____

Wild animal exploration completed (date) _____

Stream exploration completed (date) _____

Exploring trip to open field completed (date) _____

Insect survey completed (date) _____

Project book completed (date) _____

Exhibited at fair (see page 20) (date) _____

Gave demonstration at fair (see page 20) (date) _____

TO THE LEADER

This project may be used either by a 4-H Conservation Club in which all members carry it or by the general club where only certain members carry it.

The following outline of meeting topics is a guide to the club leader and as a yardstick of progress for the member.

Outdoor activities stressed in this project can be carried out between meetings just as a heifer project is fed and cared for between meetings. The club meeting should serve as a source of help in preparation for explorations to come, in completing the record of past explorations and as a source of encouragement. Of course, some meetings may be devoted to the exploring trips.

MEETING OUTLINE and CALENDAR OF ACTIVITIES

1st Meeting—Let's organize our club, let's review the activities to come and discuss exploring. (Leader or older member might prepare to tell of incidents in the life of a famous explorer—Kenton, Boone, Carson, Bridger, Byrd, Stefanson). Page 3.

2nd Meeting—Getting ready for the woods trip. Members should come prepared to exhibit their outdoorsman's kit and other preparations and to discuss the fundamentals of woodslore. Make plans for first trip. Pages 3-10.

3rd Meeting—Complete record of first trip and discuss. Make plans and preparations for second trip. Pages 11-13.

4th Meeting—Complete record of field trip and discuss. Make plans and demonstrate preparations for stream trip. Pages 13-14.

5th Meeting—Complete record of stream trip and discuss. Make plans for the exploration for wild animals. Have county wildlife agent (game protector) or an outdoorsman talk about "Our wild animals and where to find them." Pages 14-17.

6th Meeting—Complete record of wild animal exploration and discuss. Make plans for insect survey, construct nets. Pages 18-20.

7th Meeting—(or before fair time) Insert survey completed. Plan county fair exhibit and individual demonstrations. Page 20.

8th Meeting—(or last meeting) Complete projects. Discuss conservation projects for next year. Make plans for club tour to a state park, municipal park, state forest, or state hunting and fishing area. Page 20.

10M

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Let's Explore the Outdoors

WHERE TO GET HELP ON THIS PROJECT

The more helpful persons you can find, the more you will learn about the outdoors. Here are some ideas on where to get help:

Your parents or older friends and neighbors who know a lot about the outdoors.

The county wildlife agent (game protector), conservation farm planner, farm forester or other professional outdoorsmen in your area. Your county extension agent.

If you go to 4-H camp, you can get a lot of help from the conservation counselor.

Books can give you valuable help in learning about the outdoors. Your nearby library and bookstore have many good guides on birds, flowers, trees, insects, animals and other outdoor things.

You have decided to take the woods, fields and streams as your 4-H project this year and to learn more about them. By exploring the outdoors you will become a member of that group of explorers and scouts headed by Daniel Boone, Simon Kenton, Kit Carson, Admiral Byrd and Admiral Peary.

Like these great American outdoorsmen you will want to be alert and develop keen senses of seeing, hearing and smelling so no secrets of the outdoors will escape you. You also will want to learn how to take care of yourself outdoors so you can explore without fear.

GETTING READY FOR THE FIRST TRIP

You wouldn't think of going to church without the right clothes on—or at least your mother wouldn't let you do this. It is just as important to wear the right clothes when you go outdoors.

Let's start with the feet. You won't walk very far without comfortable, healthy feet. Good shoes and daily washing are essential to healthy feet. Your shoes should help you walk like an Indian with feet pointed straight ahead—not slew-footed like a drugstore cowboy. If your shoes come up past the ankle they will give more support and protection. In wet weather you will need galoshes or rubber shoes.

Your trousers should be full length. Shorts are good in parks but not in the woods where thorns and insects can get to your legs. The same goes for your shirt. It should have long sleeves which can be rolled down and a collar which can be turned up.

Some outdoorsmen make their trousers brush-and-bramble resistant by sewing an extra layer of cloth on the front of the legs from below the knee to slightly above the bottoms of the pockets. Your mother or sister can help you take the backs from the legs of old overalls and fix your trousers this way.

In wet weather you need a raincoat or poncho. You can make your old trousers and jackets waterproof by rubbing them with a bar of paraffin and then going over them with a hot iron. This doesn't hurt the iron—in fact, it makes it iron better. Another way is to buy a water-proofing spray.

If the weather is cool or if you expect to be out after sundown you should carry a light jacket or sweater.

Equipment

Every outdoorsman needs certain equipment. A good pocket knife—Have your dad show you how to keep it sharp and teach you the rules: Never cut toward you. Don't use it for prying or as a screw driver.

First Aid Kit—My kit is a band-aid box with a few band-aids, a small bottle of antiseptic, some adhesive tape wrapped around the bottle, a needle and thread, burn ointment, a few aspirins and some cotton. You can get a snake-bite kit from a drugstore if you are in rattlesnake country.

Insect repellent and salve to make mosquito bites stop itching are valuable items.

A large bandana is useful. You may need it to protect your neck and face, as a sling or as a tourniquet.

A light, plastic raincoat keeps many a trip from becoming a drenching.

A small box of raisins or chocolate bar will give you extra energy.

A small magnifying glass helps us look at little things.

A canteen to carry water if the day is hot and the trip long.

A camera, a pencil and a notebook help to make a record of your discoveries.

Field books on flowers, birds, trees, insects, or whatever you are looking for are useful.

Special tools for testing, measuring or collecting. Some of these will be described later in this handbook.

You can buy a handy shoulder bag from an Army surplus store to use for carrying your outdoor equipment.

List for My Outdoor Kit

Socks 4 pairs, 2 pair shoes, 2 pair pants, 3 shirts, 1 undershirt, 2 ups 1 magni. 1 raincoa

WOODSLORE—HOW TO GET ALONG OUTDOORS

Your brains and your ability to use it are the most important items in your outdoorsman's kit.

Here are some ways an outdoorsman "uses his brain:"

If He Gets Lost—We don't expect you to go into strange and wild territory unless you are with a person who knows the country. If you do get lost, keep a clear head. If you can't retrace your steps, find a high spot and/or climb a tree to get a look at the country side and regain your bearings. If you find a stream, follow it downstream until it crosses a well-traveled road or joins a large stream. Either of these should take you back to civilization.

Protect Against Insects—Chiggers and mosquitoes are the outdoorsman's worst insect enemies. You can keep chiggers away by dusting powdered sulfur around your ankles and trouser tops or applying the newer insect repellents to these areas. Insect repellents used according to directions on the bottle also keep mosquitoes away from the head and arms. Long trousers of stout cloth and "T" shirts worn under long-sleeved shirts will protect the body.

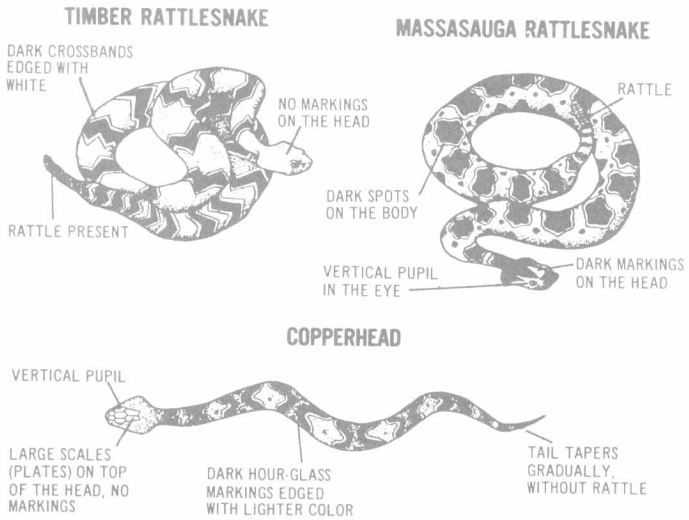
Know Animals—You are bigger than any wild animals you are likely to find in Ohio except deer. All of them will be afraid of you and willing to let you alone—if you do not threaten to harm them.

Beware of cornered animals. They will fight.

Beware of animals which act tame. They may have a disease or once have been a pet. They are dangerous.

Know the Snakes—There is no need to fear snakes if you understand them. Most of our snakes are harmless. Two kinds of rattlesnakes and the copperhead are the only poisonous snakes in Ohio.

The pygmy rattler is found in western and northeastern Ohio in or near wet places. The timber rattler and copperhead are found in the hilly parts of southern, eastern and northern Ohio. The rattler frequents dry, wooded hillsides and hilltops. The copperhead prefers old, brushy fields but also likes woods and open fields.



When in snake country, don't put your hands or feet into places you can't inspect first. If you surprise a snake, he will bite. If he has warning he will get out of your way.

It is hard to find rules for identifying poisonous snakes although each of our three poisonous snakes has a deep pit in the face between the eye and nose. Pupils of their eyes are vertical slits.

It's true that poisonous snakes have heads more sharply triangular than non poisonous snakes, but without much experience you will have trouble separating the snakes by this method.

Study the pictures so you will know the snakes. Learn where they usually live. Keep your senses while in snake country.

Practice Safety—You can prevent accidents. Use your brain to avoid dangerous situations. These include horseplay and foolish tricks.

Be prepared for accidents. Know how to use your first aid kit and practice the simple rules of first aid.

Plants You Can Eat—Some plants, their fruits or nuts can be eaten. Ask your parents to show you some of the edible wild fruits and nuts. You can learn more about them in the library.

Some fruits and nuts are poisonous. IF YOU DON'T KNOW IT, DON'T EAT IT!

POISON IVY

The Demon Plants—Poison ivy, poison oak and poison sumac are the demon plants. The only way to beat them is to know and avoid them.

Poison ivy is a climbing vine that grows anywhere. Its leaves are arranged in groups of 3 and have a shiny surface pebbled with sickly-looking warts. The plant has white berries.

Poison oak looks like poison ivy. Poison sumac is found only in the few Ohio swamps. You are unlikely to find it.

Use the same remedies for the rash caused by any of these plants. Wash the affected parts with strong soap as soon as possible. Treat mild cases with baking soda or a drug store remedy. Get a doctor for serious cases.

A very important part of your outdoor manners will be asking permission of the landowner before going upon his land. What rules will you follow for safety in the outdoors? Write your list here.

Do not destroy anything

OUR FIRST TRIP—TO THE WOODS

Now that you have the equipment for exploring, we can make our first trip. Use this project book as your guide. You can go alone or with several other members. If you belong to a conservation club, it can be a club trip. It will be more interesting if your junior leaders, advisor or parents go too.

Our first trip will be to a woods. We have to go to a first-class woods to see how Ohio looked to the pioneers who settled here 150 years ago. Can you imagine what it was like with Indians, bears, bobcats, mountain lions, buffalos, moose, wild turkeys—all depending on the forest for food and shelter.

Although it's hard to find a woods today which hasn't been touched by the axe and grazed by cows, try to find the best woods in your neighborhood for this trip. If the woods does not belong to the family of anyone in your group then be sure to get the owner's permission to explore his woods.

As soon as you are inside the woods, look at the trees. Look at their size, shape and the type of leaves they have. How many different kinds of trees can you find?

You can learn the names of these trees by comparing their leaves with the drawings of leaves on the next pages. See how many you can match.

Do you know the difference between simple and compound leaves? A true leaf always has a bud under the base of its stem. A leaflet of a compound leaf does not have a bud at its stem base. This is the first secret in knowing the trees.

Whoa! Don't pick all the leaves from one little tree. The leaves manufacture food for the tree. If you remove its factories, it dies. Pick a few leaves from each of many trees.

Have you thought of trees living in communities the way people do? Some trees can grow with wet feet, others with very dry feet and others must have moist, rich soil.

A few trees don't stay in one community but are found in several. It's easier to become acquainted with trees if we think of them in communities and make allowances for the traveling salesmen.

The profile of the land on page 6 names the location of some types of tree communities. Study it and name the tree community you explored.

Now list the trees you found. Compare it with another community if one is nearby. We often find two communities in the same woods.

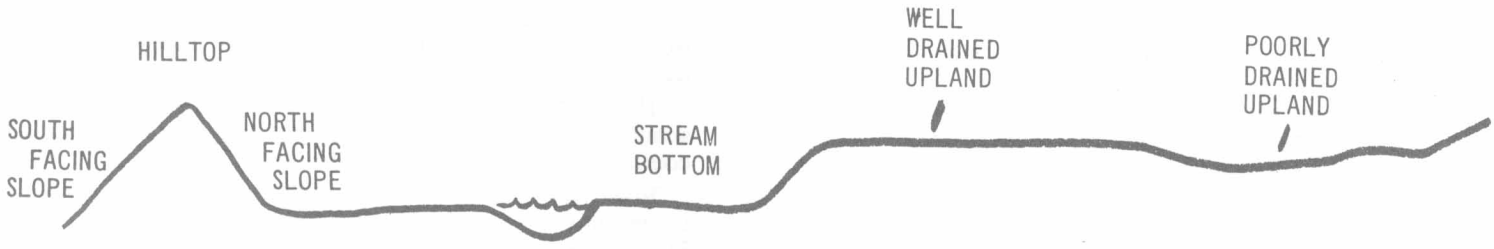
Community name Oak

Trees: White Oak Pin Oak

Community name Pine

Trees: Pine (Mostly Pine)

You can learn more about the trees by sending for "Ohio Trees" (for sale only) from the University Book Store, 4 Derby, 140 N. Oval Drive, Ohio State University, Columbus, Ohio 43210, or get the "Tree Finder" (for sale only) from Nature Study Guild, Naperville, Ill. 60540.

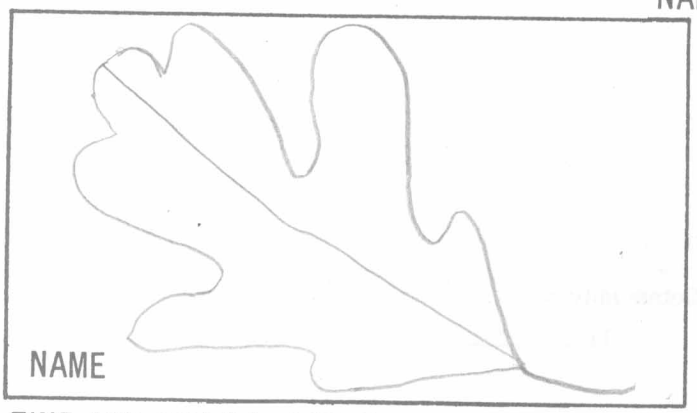


ROLLING AND HILLY LAND

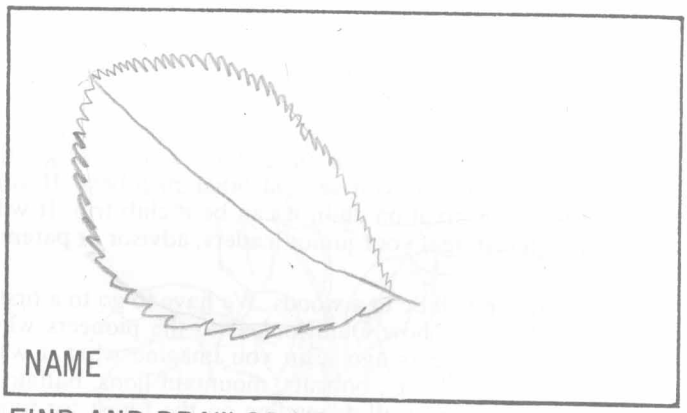
FLAT OR GENTLY ROLLING LAND

FIND SOME TREES WHOSE LEAVES ARE NOT SHOWN.

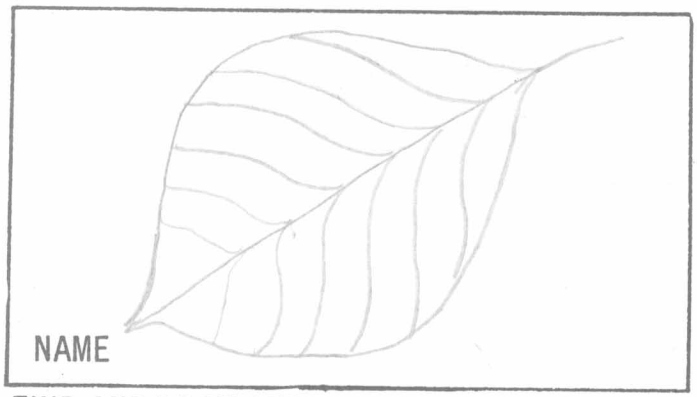
NAME THEM



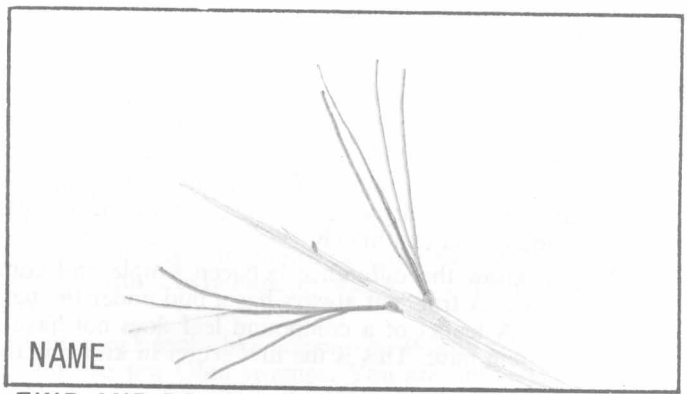
FIND AND DRAW A SIMPLE LEAF WHICH HAS LOBED EDGES.



FIND AND DRAW OR MOUNT A SIMPLE LEAF WITH TOOTHED EDGES.

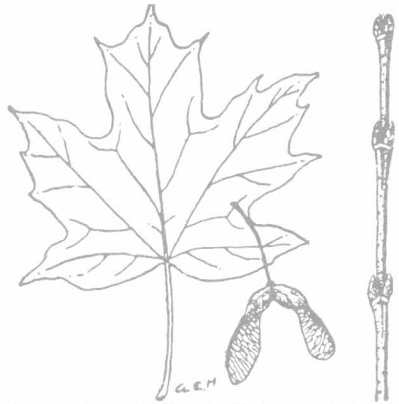


FIND AND DRAW ANOTHER LEAF WHICH YOU WOULD LIKE TO KNOW.

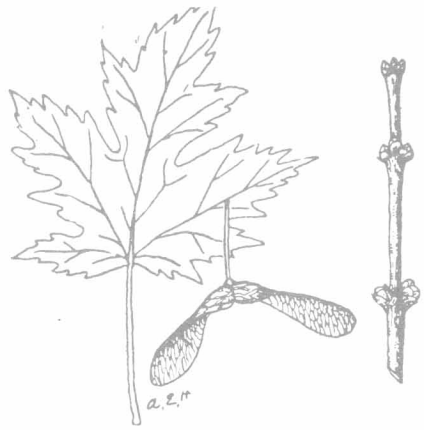


FIND AND DRAW A COMPOUND LEAF.

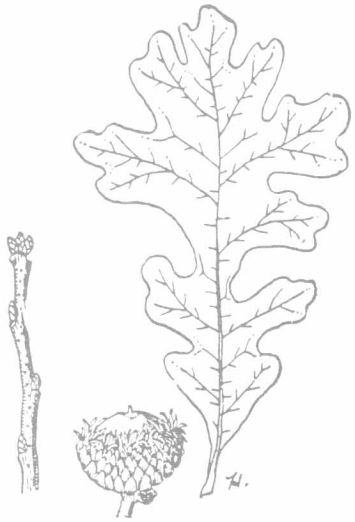
White Elm (leaf, one-third natural size; twig, one-half natural size)



Sugar Maple (leaf, one-third natural size; twig, one-half natural size)



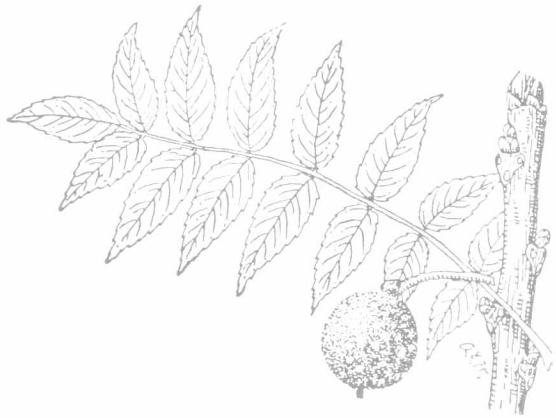
Silver Maple (leaf, one-third natural size; twig one-half natural size)



Bur Oak (one-third natural size)

THESE ARE SIMPLE LEAVES.

THESE ARE COMPOUND LEAVES

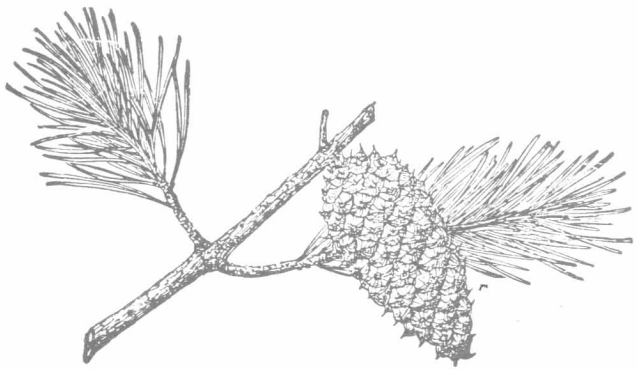


Black walnut (leaf, one-fifth natural size; twig, three-quarters natural size)

Shagbark Hickory (leaf, one-third natural size; twig, one-half natural size)

White Ash (leaf, one-fourth natural size; twig, one-half natural size)

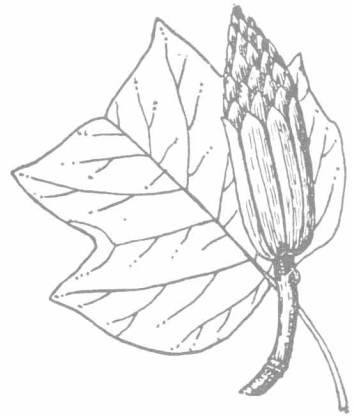
SOME OHIO TREES—
CIRCLE THE ONES ON THESE 2 PAGES WHICH YOU FIND IN YOUR TREE TOWN.
TO HELP IDENTIFY THEM LOOK FOR DIFFERENCES IN LEAVES, TWIGS, FRUIT, AND BARK.



Virginia (Scrub) Pine (one-half natural size)

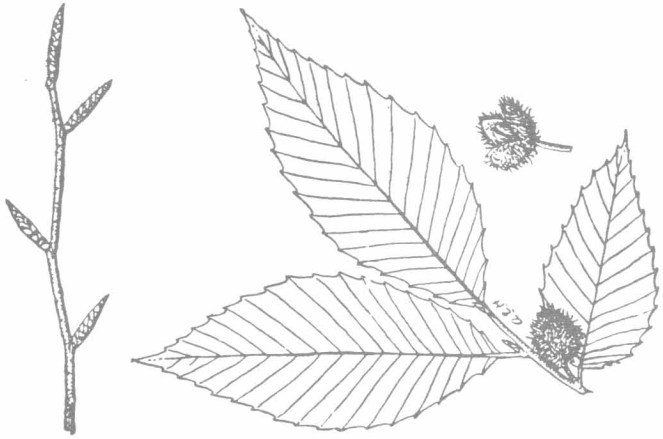
Pin Oak (leaf, one-third natural size; twig, one-half natural size)

Eastern Red Oak (leaf, one-third natural size; twig, one-half natural size)



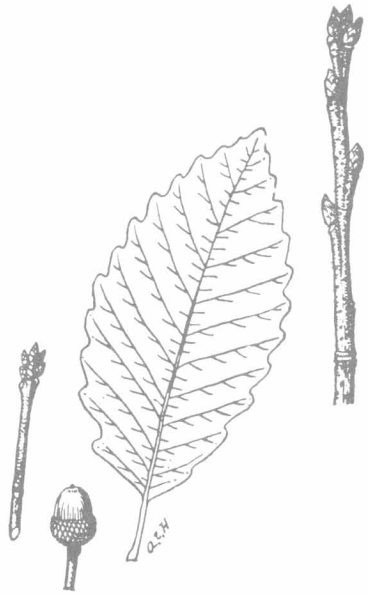
Tuliptree (leaf, one-third natural size;

THIS LEAF HAS SMOOTH EDGES



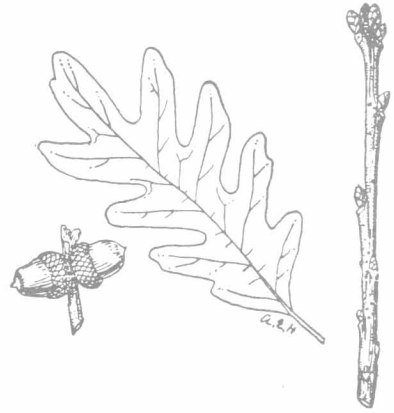
American Beech (one-half natural size)

THESE LEAVES HAVE TOOTHED EDGES.



Black Oak (leaf, one-third natural size)

THESE SIMPLE LEAVES HAVE LOBED EDGES.

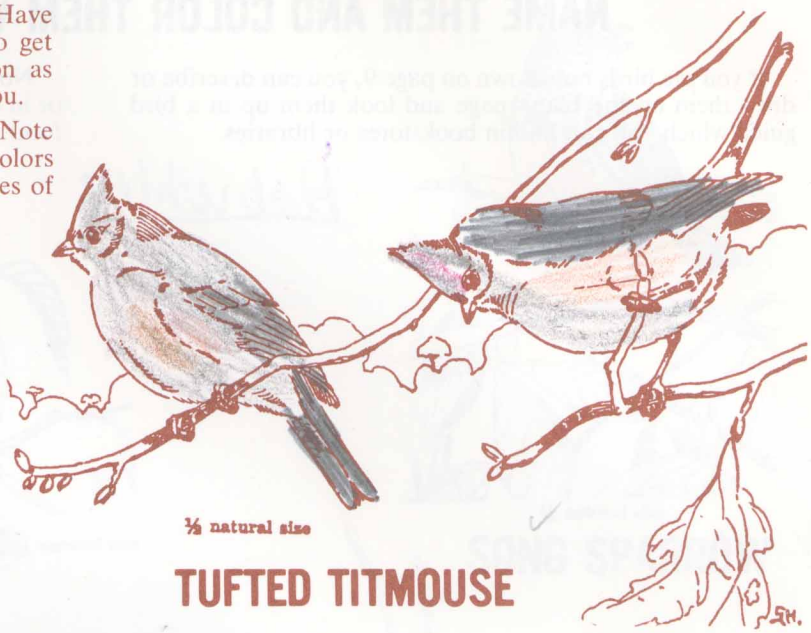


White Oak (leaf, one-quarter natural size; twig, one-half natural size)

BIRDS OF TREE TOWN—PUT THE RIGHT COLORS ON THE BIRDS YOU FOUND.

Let's find some other residents of this tree town. Have you heard any birds? Can you see any birds? Try to get close to a bird. Stalk it quietly with as little motion as possible or sit quietly and the birds will come past you.

Compare the birds you see with the bird outlines. Note the shape and size, color, song and habits. List the colors you see on the bird. Later you can color in the outlines of the birds you saw.



½ natural size

TUFTED TITMOUSE

3/7 natural size

WOOD PEWEE SAYS "PEE-AH-WEE"

½ natural size

CARDINAL

3/7 natural size

TOWHEE

1/5 natural size

FLICKER

BIRDS OF TREE TOWN - MAKE DRAWINGS OF OTHER WOODS BIRDS HERE . NAME THEM AND COLOR THEM WITH THE RIGHT COLOR

If you see birds not shown on page 9, you can describe or draw them on the blank page and look them up in a bird guide which you can find in bookstores or libraries.

Notice whether the bird you watch is close to the ground or in the upper story of the woods. Do you suppose that the food it prefers has anything to do with where you find it?

Bobwhite

BIRDS OF THE FIELD - COLOR THE BIRDS YOU FOUND.

FIELD SPARROW ⅓ natural size

⅓ natural size

SONG SPARROW

⅓ natural size REDWING

BOBOLINK

⅓ natural size

MEADOWLARK

⅓ natural size

BIRDS OF THE FIELD MAKE DRAWINGS OF OTHER FIELD BIRDS HERE, NAMING THEM AND COLOR THEM WITH THE RIGHT COLORS.

Red-Winged Blackbird

Animals

Do you find other animal residents? Look for some animal homes on the ground, and in the trees. Do you find other signs that tell you animals are present. Look for tracks, scratches on trees, evidence of where an animal has eaten. Make a list of the signs you found:

2 beavers
hawks
snakes

The Soil

If you are sitting on the ground you are on the most important part of the woods—the soil. Would these trees be here if there were no soil? No Let's dig into the woods soil and look for upper and lower stories and some residents.

If this is a thriving tree town, there is a deep layer of leaves on the ground. The top of this layer is fresh leaves. What do the leaves underneath look like? No Ved. dead
What is eating these leaves? bugs fungi
Do you find any animals (insects are animals) in this layer? Yes spiders
Could they be eating the old leaves?

As you dig deeper, do the leaves seem to be turning to soil particles? Yes Is the soil right under the leaves black, loose and spongy or yellow, hard and compact? black spongy How far down do you have to go before you find soil which looks like the soil in fields nearby? 1/2 inch
Which of these animals did you find? 3 2

1 Earthworm 2 Grub 3 Centipede
4 Ants 5 Spiders

Find a rotting log. Is the same thing happening to it as to the fallen leaves? Yes Is it going back to the soil? Yes

We all know that to keep our crop production high, we fertilize with manure, fertilizer and plow-down meadow crops.

How is the woods fertilized? By fallen rotted trees. Their wood rots and release important chemicals

Wild Flowers

Have you noticed some plants growing on the woods floor? Jack-in-the Pulpit Can you find any flowers on them? Yes You won't find many flowering plants in the woods unless you go there in April and May. By June the leaves on the trees shade the woods floor. The plants that grow here must be the type that bloom and do most of their growing and produce seed in early spring. Otherwise they could not survive.

Can you notice much difference between the brightness in a sunny field and inside the woods? Which is the brightest? a sunny field

This completes our first trip to the woods. You may have some unknown trees or birds which you want to look up. If you want to see more of the birds, come back in early morning. This is when birds are most active.

OUR SECOND TRIP—TO A FIELD

Now we are going to explore another kind of community. We will study a farm field. The best time for this trip is late in the afternoon past the heat of the day. You can select a corn field, wheat field, hay field or any farm field. Special tools you can bring are an insect net (see page 15) and collecting bottle, four tin cans of the same size and a small trowel or shovel.

Do you have the landowner's permission for this trip? Yes

First, let's look at the most common field town residents. They are plants. What kinds of plants? weeds
How many kinds of plants can you find? 5 Which plants are not wanted by the farmer?

Crabgrass, dandelions
horsetail

What plants are wanted?

grass, trees

Let's find some birds. Are there as many as in the woods? No Do you find any of the same birds as in the woods? Yes Can you find the birds shown on page 11? No Circle the birds you find and write in their colors so you can color them.

You may find snakes, hawks, and foxes in fields. Since insects and mice are the main diets of these animals, the fields are an inviting dinnertable to them. If hawks eat mice and insects, are they helping us? Yes

Have you found any four-legged animals in this community? Name those you have seen:

Field mice opossums skunk

Where do they live?

Holes in the ground hollow logs

Let's dig in the soil. Can you find the layers of rotting materials like you found in the woods? No Is the soil dark and spongy or light colored and compact? Dark Which kind of soil would soak up water the fastest? Let's find out.

SPECIAL PROJECT 1

To find out whether a woods soil or field soil soaks up water the fastest.

Find 4 tin cans of the same size. Punch nail holes in bottoms of two of them.

Cut a 3-inch deep sample of soil from a crop field and from the woods. Place each in a can with holes in it making certain that the soil fits snugly at the sides of the can.

Fill the remaining two cans with 1 inch of water.

Pour the water onto both soil samples at the same time.

Into which sample does the water disappear first? _____

Watch the bottoms of the cans. Which starts to drip water first? _____ We have floods because water runs off the soil instead of soaking in. When do you suppose we had the most floods—before or after our great forests were cut down and the land made into crop fields? _____

Complete this project by exploring and comparing after a heavy rain, both a cornfield and a woods or pasture.

What We Have Learned

By now we have made the discovery that the differences between the tree town, and field community are very definite. The plants, birds, insects, and four-legged animals differ from one community to the other. Do you wonder what it is that makes the residents of these two communities so different? In a field, it has a lot of space

Of course, man is the real cause of it because he has made the fields from the forest. We can learn more about the basic differences between these areas by studying their temperature, humidity, soils and other things. You can make these studies if you want to.

Make a record of your important discoveries from these two trips. List what you have learned about the outdoors.

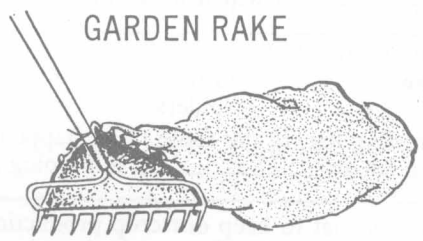
OUR STREAM TRIP

Let's explore a stream!

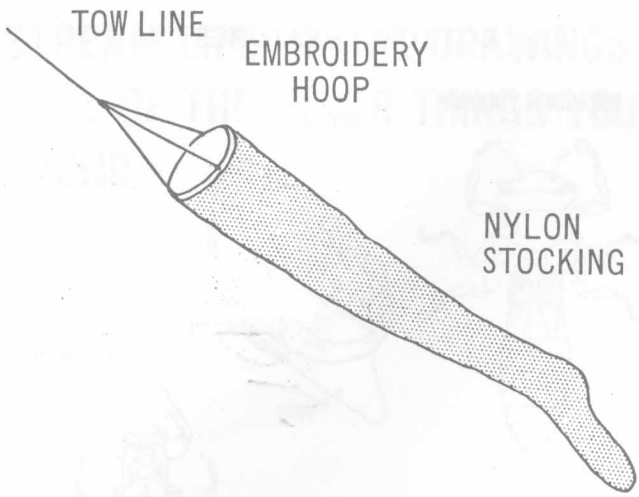
This trip is to the most mysterious of the outdoor communities. We know it has many residents but most of them remain underwater and out of sight. For this reason we need some special tools for this project:

A seine—This should be a 4 x 8-foot minnow seine. If you are unable to get one you can open the seams on a loosely woven burlap sack and tack poles on both ends. You can use a bigger seine than 4 x 8 feet only if you get a special permit from the county wildlife agent. (Game protector)

A bottom rake—Tie a burlap bag behind a garden rake as shown.



A plankton net—Make a hoop from a clothes hanger. Get an old nylon stocking and some string. Insert the hoop into the hem of the stocking or sew it on. Then tie three short strings equally spaced on the hoop. Tie the ends of these strings together and attach a long string at this point. You also will need a shallow, light-colored pan with this tool.



You also can bring a thermometer. Shorts or bathing suits can be worn on this trip. It would be best if several explorers could work together on this trip since it requires a lot of tools. A junior leader or club leader should go along to help with the tools.

Select a Small Stream!

The stream you work in should be narrow and shallow. When you select a spot, pick one person to probe it with a pole in order to discover any deep holes. Stay away from large streams and deep holes unless you are with responsible grownups. For best results you should pick a time when the streams are not swollen and muddy.

First we want to look for plant life. Remember that plants were the most abundant kinds of life we found on the other trips. Can you find any in the stream? Refer to the pictures on next page to name the plants. What plants do you find?

Algae Sedge

If you find some plants you can't identify you may want to draw pictures of them to look up later.

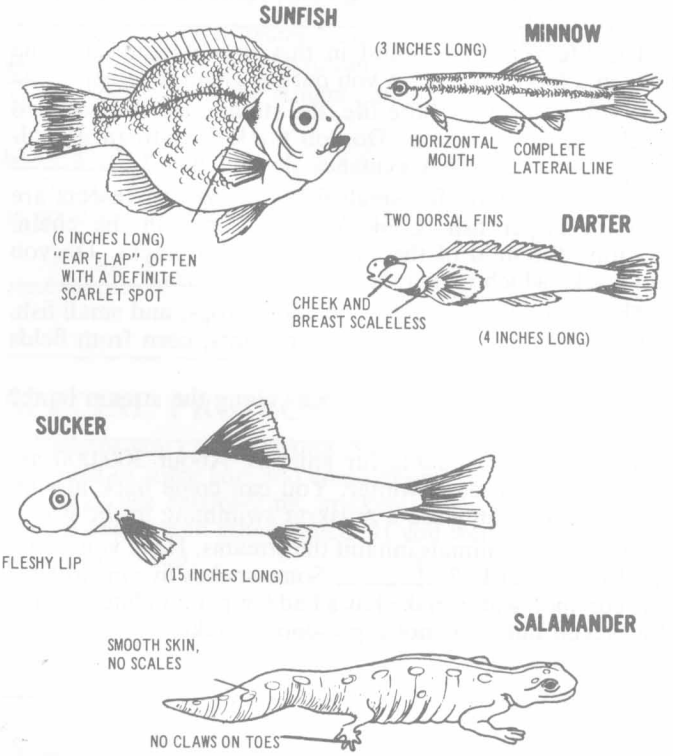
You can find a kind of plant attached to rocks or plant stems in shallow water. It looks like a mass of green thread. Pick some up and see if you can find the threads. This is *algae*. Did you find it? Yes

Fish

Now use the big seine to pick up some animals. Seine upstream as rapidly as you can walk. When ready to pull the seine out of the water, lift it quickly with a sweeping motion or angle over to the bank and run it out on dry land. Be sure the lower edge of the seine runs on the bottom of the stream.

What have you caught? salamander

STREAM LIFE-ANIMALS



Circle the stream animals found in your seine.

Examine a sunfish. How does it breathe? Yes Lay it on the bank to die, or strike it sharply at the base of the head with your knife. Open its stomach to see what it eats. Does it eat plants or animals? Plants

Where does it get its food? On underwater rocks

Fish Food

Let's seine for the tiny life of the stream. Go upstream where the water has not been muddied by your seining. Throw the plankton net in the water and either let the water flow through it or tow it upstream from the bank.

After a couple of minutes, haul in the net, turn it inside out and rinse the tow by pouring water through it into the white pan. The fine mesh of the stocking has strained the stream water. Are there any animals moving in the pan? Yes Can you see any tiny green plants? No Did you notice whether the water in the stream seemed cloudy? No Could this be caused partly by these plants and animals? Yes

These tiny plants and animals are called *plankton*. Do you suppose they could be important as fish food? Yes

Let's explore the bottom of the stream! This is where we use our bottom rake. By raking along the stream bottom with this dredge, bottom dwellers will be stirred up and caught in the bag.

Examine the muck dredged up. Carefully separate the different things you find into groups. Do any of these strange creatures resemble the drawings? Circle things you found.

Streams and ponds are the cradles of many of our insects. Dragon flies and may flies spend their "childhood" in pond and stream bottoms. While in this stage of life these insects are important fish food.

Did you collect much mud in the bag? Yes Where does it come from—the stream banks? ~~no~~ yes the fields?

Yes Is it more likely to come from the woods or the cornfield? cornfield

The life you have found in this stream represents the links in a food chain. Can you put the chain together? Yes

If you found very little life, the stream may be polluted by chemicals or sewage. Do you think this stream is polluted? No What evidence do you have? There is life

Plankton is food for small fish and insects. Insects are food for larger fish. Look for other links in the chain. Examine the mud of the stream bank for tracks. Do you find tracks which match the drawings. just 1

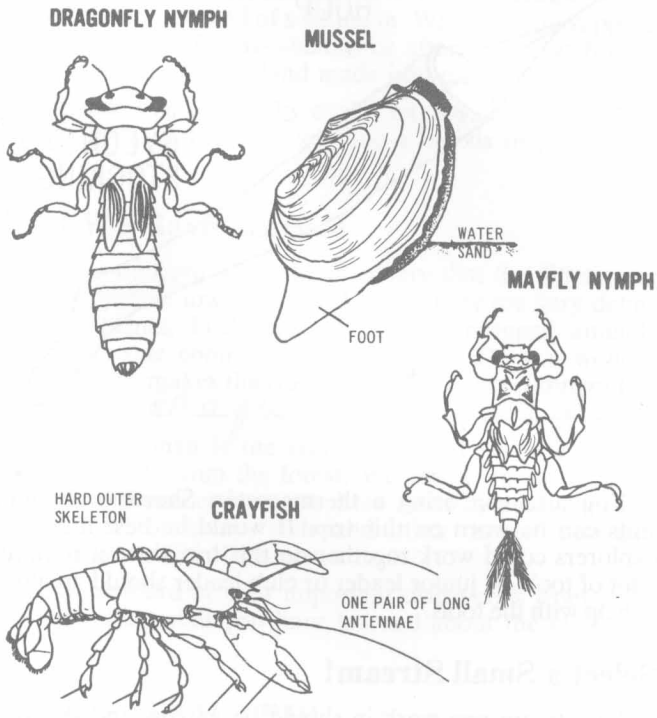
The raccoon eats crayfish, mussels, frogs, and small fish. The muskrat eats the larger water plants, corn from fields and a few mussels.

Can you find any muskrat dens along the stream bank? Yes, many

Muskrats are valuable fur animals. About 500,000 are trapped in Ohio each winter. You can come back at sundown and probably see a muskrat swimming in the water.

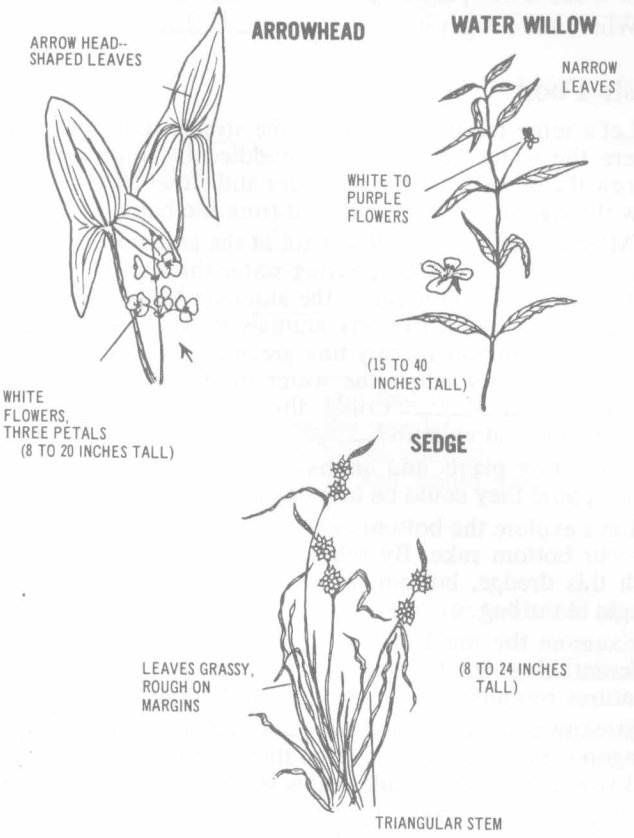
Many other animals inhabit the streams. Have you found any frogs or turtles? Yes Some snakes live in streams. The common water snake has a bad temper and bites readily if attacked but he is not a poisonous snake.

BOTTOM CREATURES

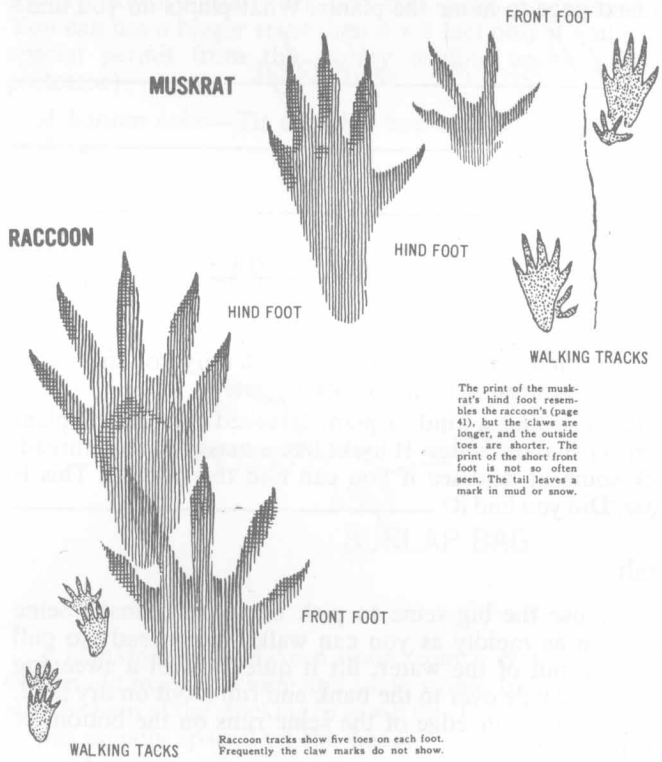


FIVE PAIRS OF "WALKING LEGS", FIRST PAIR WITH HEAVY PINCERS, SECOND AND THIRD PAIR WITH SMALL PINCERS, FOURTH AND FIFTH PAIR WITHOUT PINCERS

STREAM LIFE - PLANTS



STREAM LIFE -- TRACKS IN THE MUD



The print of the muskrat's hind foot resembles the raccoon's (page 41), but the claws are longer, and the outside toes are shorter. The print of the short front foot is not so often seen. The tail leaves a mark in mud or snow.

Raccoon tracks show five toes on each foot. Frequently the claw marks do not show.

STREAM LIFE - MAKE DRAWINGS HERE OF THE OTHER THINGS YOU FOUND.

Snail

bug

Mosquito

SPECIAL PROJECT 2

Take a sample of water from the stream now, compare later with sample after the stream is swollen by a heavy rain.

In which case is the stream carrying the most soil?

A stream with heavy rain

Do you suppose the muddy, fast-moving water of floods is good for the life in the stream?

No

SPECIAL PROJECT 3

Perhaps you can go fishing. You will need some line tied to a pole of some sort and some hooks (size 10). For bait you may use earthworms, crickets, corn worms, dragonflies, nymphs, and other insects. If you went fishing, report here on your trip:

THE FOURTH TRIP—EXPLORING FOR WILD ANIMALS

After our trips to tree town, field community and a stream we know that plants and animals are found living in communities. We have also learned to know certain residents of these communities.

Now we want to concentrate on the wild animals of the various communities around your home so we can know them and where they live. This will be one of our most exciting trips.

Where Will We Look?—We want to look through hay fields, and other fields, grassy and shrubby areas which are not farmed, fencerows, the woods edges, inside the woods and along streams.

What Will We Look For?—Most wild animals will see us first and get out of sight but if we are alert and careful we can take some by surprise. It would be fun to see a family of quail or pheasants, a young bunny rabbit, a clumsy groundhog or a saucy squirrel. Of course, we don't have to see the animal to know it is there. We can find *its home, tracks it makes, where it has eaten,* or *droppings it has left behind*. We can even catch small animals like meadow mice by setting mouse traps in their runways.

We have seen some animal signs in our trip to tree town. We saw raccoon and muskrat tracks along the stream.

Equipment—Since this could be a long trip you may want to take a canteen full of cold water and possibly your lunch or at least something to munch on. Don't forget your regular outdoor kit and some insect repellent. You also will need a pencil for making a record of your discoveries and a camera if you want pictures.

Record

Record of animals, animal signs, and animal homes I discovered.

Meadow, stubble field or other open area

Mice
found holes in flatten
dead grass, also exposed
tunnels

Grassy fencerow

Rats
Chewed wood, home in
a fallen fencepost, no
grass in area

Shrubby fencerow

Squirrels
Holes in ground, mud
around entrance.

Edge of woods

Squirrel Mice
Heard footsteps
Holes in leaves on
ground and in trees

Middle of a woods

Squirrels Rabbits
Rotting logs houses for
rabbits, Squirrels jumping
from tree to tree

Along a stream or ditch

Muskrat, rats
Large holes, 1 dead muskrat
Rat houses around shore

Some Questions to Answer

1. Where did you find the most evidence of animals? In woods
2. Where did you find the least evidence of animals? Shrubby Meadows
3. Which of these areas offers the most food and shelter for wildlife? The woods
   Grassy or shrubby fencerow Grassy
   Clean or shrubby stream bank Shrubby
   Clean, pastured or dense, unpastured woods Dense
4. Would you like to produce more wild animals on your farm? Yes
5. Based on your discoveries, name some things you could do to furnish homes for wildlife on your farm:
   In fencerows Put up feeders and baths
   Along the streams or ditch Houses
   In the woods Put out some hay so they can build nests

EXTRA ACTIVITY—AN INSECT SURVEY

Make an insect net according to the instructions. Be sure to make a sturdy net. To collect with your net sweep back and forth across the tops of the plants. Make the same number of sweeps in each kind of area so the comparison will be even.

You can survey some different areas to discover the many kinds of insects and to find differences in the kinds and numbers of insects in each area.

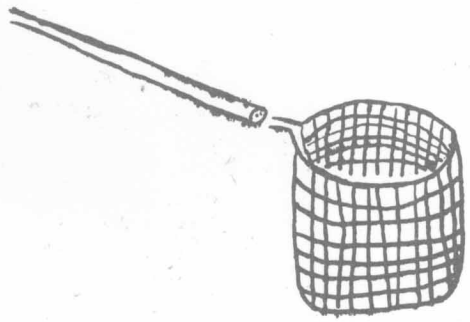
Let's compare a strip of grassy fencerow and a strip of shrubby fencerow.

EQUIPMENT FOR MAKING AN INSECT COLLECTION

With a few single items of equipment you can make a very colorful insect collection. The equipment is not difficult to make and in most cases it can be assembled from odds and ends that are found around home.

A CATCHING NET can be made from:

1. Old broom handle
2. A wire clothes hanger
3. A piece of mosquito netting or light muslin 3 x 5 feet
4. Soft thin wire—1 foot
5. Heavy thread and a large needle



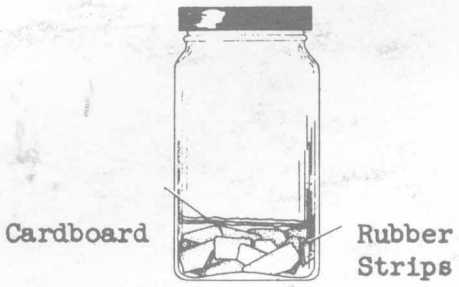
A catching net is a must. It should be large enough to cover a fairly good size area since a moving object is much harder to snare with a small net. Moths or butterflies will escape from a shallow net so it should be deep enough to fold over the wire and hold the insects captive. If cheesecloth or similar material is used you can easily see your catch.

Instructions

1. With hand saw, cut the broom handle from just above the straws.
2. Drill 2 holes ⅛″ in diameter and 2″ deep in the end of the handle. They should be about ¼″ apart.
3. Make loop from the wire and insert each end in one of the holes.
4. Wrap this end of handle with fine wire.
5. Drive nail or screw in between the end holes wedging wire in tightly.
6. From your cloth, make a net, shaped like a grain sack, and stitch it to the wire loop with heavy thread.

A KILLING JAR can be made from:

1. A wide-mouthed pint jar.
2. Strips of rubber (pieces of elastic or rubber bands will do).
3. About 4 ounces of carbon tetrachloride.
4. A piece of cardboard (corrugated double faced).



Instructions

1. Place about ¾ inch layer of rubber strips in bottom of jar.
2. Cover rubber strips with carbon tetrachloride and allow to stand overnight.
3. Pour off excess, but save it for recharging the killing jar.
4. Cut two or three circles of cardboard slightly larger than jar. Force these down over the rubber strips.
5. Put on top tightly.

Keep these collections from the two areas separate. Dump them on a smooth surface for sorting. Still keeping the collections separate, sort the same kinds of insects into separate piles.

1. Which area produced the most insects?
2. Which area produced the most kinds of insects?
3. Which area produced the most grasshoppers?
4. Grasshoppers damage crops. Based on this fact, which of the 2 fencerows is best for your crops?
5. Make these comparisons for other areas such as a woods and a hay field.

Fair Exhibits

You will want to join the fun at the county fair by making an exhibit. Here are some ideas for individual exhibits.

1. Make a chart on 22 x 28 inch cardboard showing what you discovered on one of your trips. You could have specimens from your stream trip preserved in alcohol. You can use photographs, pressed leaves or any number of other ways to illustrate your discoveries.
2. Make a chart on woodslore—how to take care of yourself outdoors.
3. Make a chart showing an animal; where you found it, its den or nest, what it eats and the tracks it makes.
4. Exhibit the results from one of your special activities.

Club Exhibit

Several explorers, or a whole club can make a club exhibit:

1. A model landscape showing at least 2 natural communities with the plants and animals to be found there.
2. A pair of cutaway models showing the original woods soil layers and the farm soil layers of today. (Theme: What has happened to our soil?)
3. A set-up showing your discovery that wildlife is found where there is cover and not where the land is bare of cover.

DEMONSTRATIONS

Team or Individual

Demonstrations are essential to any good club program and each member needs the opportunity to demonstrate sometime during the club year. Demonstrations have unlimited possibilities and some very nice awards are offered on both county and state levels. 4-H Circular "Words in Action," will be helpful.

Ideas

You might demonstrate that woods soil absorbs water faster than field soil or how to recognize poisonous snakes or how to make an insect net, or fishing equipment.

Get Ready

1. Select subject that should be of interest to others.
2. Decide what you want to show.
3. Know why it is important.
4. Make a list of equipment needed.

Then

List the important steps or points of what you want to show. Few people will remember more than 6 or 8 points.

Finally

Decide what you are going to *tell* and *show* about each point. Give the reason *why* wherever possible.

The Big Trip

As an extra feature of 4-H club season, your group can plan a trip to a state forest, state hunting and fishing area, a metropolitan park or conservancy district.

Check a road map or write to the Department of Natural Resources, 1930 Belcher Dr., Columbus, Ohio 43224, for a list of state areas. You may want to make arrangements before hand so that the forester or naturalist can give you a conducted field trip on the area.

Next Year

You will want to make plans now for a 4-H project next year that will help you learn more about the outdoors. You can take projects on:

Birds
Farm Managing and Soil Testing
Forestry
Insects
Soil Conservation
Wildlife Production

Check one or two which are the most interesting to you.