Member's Guide

4-H Wildlife Conservation Program, Unit 1

Wildlife Is All Around Us

BOOK 3. Summer



Wildlife Is All Around Us is Unit 1 of the Pennsylvania 4-H Wildlife Conservation Program. This unit will introduce you to the major groups of wildlife, the animals' basic needs, and where the animals can be found. By working through the projects in this unit, you will become more aware of the animals around you and the signs and clues they leave behind.

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Summer

Summer is the season of growth and development. Plants are lush and green, and trees are full with leaves. Beginning in June, black-eyed Susan and Indian paintbrush bloom in the fields. Deep in the forest the ground is blanketed with ferns.



BLACK-EYED SUSAN

Young animals grow rapidly in summer. Many young birds leave the nest. Young mammals, such as cottontail rabbits, may be seen out on their own for the first time. In the evenings, white-tailed does bring their fawns to the fields to graze.

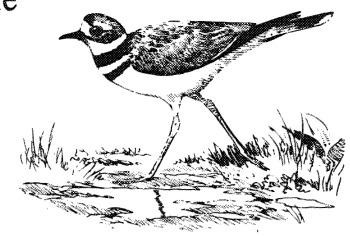
Adult animals are also growing and developing. White-tailed deer shed their antlers every winter and grow new ones in the summer. While the antlers are growing, they are filled with blood vessels and have a soft velvet covering. The blood vessels carry nutrients needed for the antlers to grow. When antlers are "in velvet" they are very soft and can be damaged easily.



WHITE-TAILED DEER

Most adult birds lose their feathers and grow new ones in the summer. This process is called *molting*. Some birds molt two or more times a year.

Most wild animals remain quiet on long, hot summer days. On these days, animals spend the afternoons resting in cooler, shaded areas. Daytime activities are limited to cool early mornings and evenings. For the wildlife detective, these are the best times to look for wildlife.



KILLDEER

As you look for wildlife clues in the summer, try to visit a stream or spring. There, birds and animals of every kind can cool off with a refreshing bath or drink. Birds can often be seen *preening* their feathers along the water's edge. Even if you don't see any wildlife, muddy banks and sandbars in streams are rewarding places to look for wildlife tracks. Opossums, muskrats, and raccoons are just a few of the frequent visitors to leave their footprints along the water's edge.

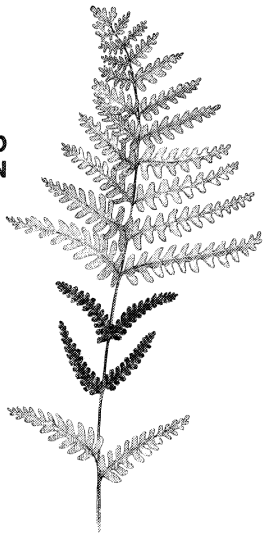


YOUNG RACCOONS

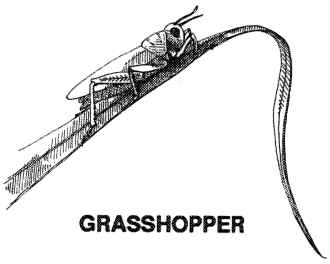


WILD BERGAMOT

INTERRUPTED FERN



In summer, although water may be scarce, food is plentiful. Late in June and July insects are abundant. Many types of insects inhabit forests and fields. They crawl in the grass, fly through the air, and burrow underground. Millions of insects provide a feast for the rest of the animal community. Grasshoppers are eaten by trout, frogs, mice, wild turkeys, and other animals! Ants are also considered a tasty treat by many. The black bear smashes ant hills and licks up the ants as they run out. Many birds and bats catch flying insects in mid-air.



GRASSHOPPER

Insects make up a large portion of the available summer food for wildlife, but berries and grasses are also plentiful. Many songbirds and mammals eat the red raspberries that grow in the highlands of Pennsylvania and the blackberries that thrive on forest edges. Black bears love to devour blueberries growing on the mountainsides. In fields and pastures, weeds and grasses provide wildlife with plenty of food.



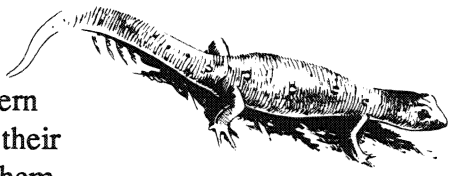
RED RASPBERRY

Summer is the season when cold-blooded animals are most active. Frogs and salamanders leave the ponds where they hatched and move to the woods and fields in search of insects. On rainy afternoons, slimy and red-backed salamanders come out from under rocks and logs to feed. Bright, orange-colored red efts, the land stage of the newt, can also be seen crawling across the forest floor on damp, rainy days. At night the bullfrog, the largest of the Pennsylvania frogs, calls out a loud "jug-o-rum, jug-o-rum." Bullfrogs are the last frogs to start calling in the summer.



BLUEBERRY

Turtles and snakes take full advantage of the summer sun. The eastern painted turtle basks on rocks and logs at pond edges. Snakes spend their summer days warming up on top of rocks and cooling off beneath them. When you hike in the summer, always be careful to watch your step! Although most Pennsylvania snakes are harmless, three poisonous snakes live in the state. They are the timber rattlesnake, the northern copperhead, and the eastern massasauga. If you follow a few basic rules, you can avoid a serious snakebite.



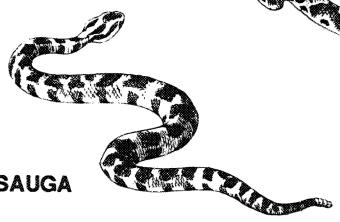
NEWT



TIMBER RATTLESNAKE



COPPERHEAD



MASSASAUGA

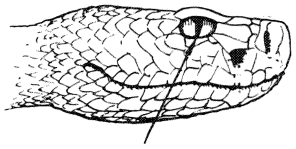
1. When hiking, always be alert and on the lookout for snakes.
2. Always look before putting your hands or feet down as you climb over rocks and logs.
3. Always wear sturdy shoes or boots when hiking.
4. Never handle a snake unless you or someone you are with is an expert.
5. Do not harm or molest snakes. They help us by eating insects, mice, and other rodents.

Summer Snake Page

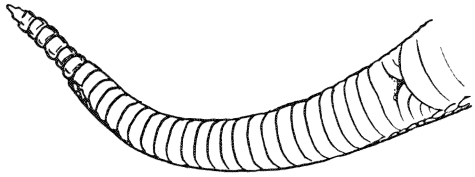
Shown below are the distinguishing characteristics of poisonous and nonpoisonous snakes. Knowing the differences between the two can help you avoid trouble with poisonous snakes.

Poisonous
Poisonous snakes belong to the pit viper family. They are so named because they have a "pit," or opening, in the side of the head between the eye and nostril. Poisonous snakes also have undivided scales on the underside of the tail and an elliptical-shaped pupil in the eye.

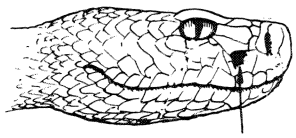
a. elliptical pupil



b. undivided scales on underside of tail

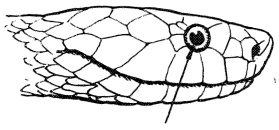


c. pit between eye and nostril

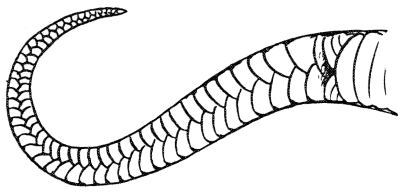


Nonpoisonous
Most Pennsylvania snakes are nonpoisonous. However, do not handle any snake unless you are sure of the differences between poisonous and nonpoisonous snakes. Nonpoisonous snakes have round pupils and divided scales on the underside of the tail. They lack the pit of the poisonous snake.

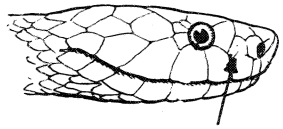
a. round pupil



b. divided scales on underside of tail



c. no pit between eye and nostril



Questions About Summer

1. Name three types of wildflowers you have seen in bloom.

a._____ b._____ c._____

2. Have you seen any young birds or mammals? If so, what have you seen?_____

_____

3. Define molting._____

_____

_____

4. Name three types of wildlife food that are abundant during the summer.

a._____ b._____

c._____

5. For each of the foods listed above, name two birds or animals that eat that type of food.

a._____ b._____

c._____

6. Try to visit a lake or pond. Did you see or hear any frogs or toads? What kind did you see or hear?

_____

7. Name a frog you are likely to hear calling during the summer._____

8. Name two basic rules you should follow to avoid a snakebite when you are hiking in summer.

a._____

_____

b._____

_____

9. List three characteristics that distinguish a poisonous snake from a nonpoisonous snake.

a._____ b._____

c._____

Summer Activities and Projects

Choose at least two of the following summer projects. You may substitute a project that you design on your own as long as you have it approved by your leader. Each of these projects may be completed as a group or individually. For some of these projects, a field guide may be suggested. Peterson's Field Guides or the Golden Field Guides are available at most public and school libraries.

PROJECT 1. Collecting Your Own Nest Materials

Birds build many kinds of nests out of many different materials. Woodpeckers dig out nesting holes in tree trunks with their strong, sharp bills. Pigeons build rough platform nests of twigs and sticks on high ledges. Each kind of bird builds a unique kind of nest.

For this activity choose one or more of the birds listed on page 6. Imagine you are that bird and you must build a nest. Locate all of the materials you will need to make your nest and try to build it. Construct eggs out of paper, clay, or other materials. Try to match the color and size of the eggs with those of the bird you chose, then place them in the nest. You may not be familiar with some of the materials birds use to build nests. These include:

Lichen—an algae and a fungus growing together on a solid surface, such as a rock or tree trunk. Lichens often appear crustlike.

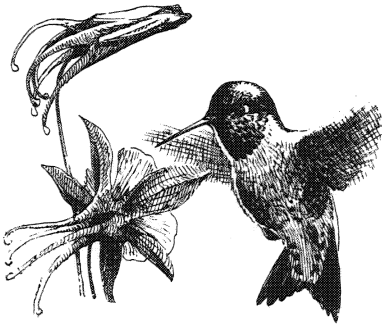
Plant fiber—a long, stringy part of a plant.

Rush—a tubular, grasslike plant that grows in freshwater marshes.

Sedge leaves—the leaves of a grasslike plant with triangular stems that grows in freshwater marshes.

Thistle—a group of plants with spiny leaves, large purple flowers, and soft fibers.

Note: Never remove a bird's nest from the wild; that is against *federal law.*





RUBY-THROATED HUMMINGBIRD AND NEST

Bird	Habitat	Location	Description	Nest Materials	Eggs
American robin	Cities, farms, gardens, open woods	In shrub or tree fork, or on a ledge	Deep cup	Grasses, weed stalks, strips of cloth, string, mud. Lined with fine grasses.	Usually 4; greenish blue
American goldfinch	Open country, farms, villages	In tree fork	Neat cup	Fine plant fibers woven and lined with thistle and cattail down	4 to 6; pale bluish white
Black-capped chickadee	Forests, suburbs	In tree or birdhouse	Tree cavity	Lined with wool, rabbit hair, insect cocoons, cottony fibers	5 to 10; white, spotted with reddish brown
Blue jay	Forests, farms, suburbs, cities	In tree	Shallow dish	Thorny twigs, bark, mosses, strings, leaves. Lined with rootlets.	3 to 6; olive or brown with dark brown spots
Common yellowthroat	Marshes, thickets, swamps, hedgerows	On ground in grass or low bushes	Bulky cup	Coarse grass, reeds, leaves, mosses. Lined with fine grasses, bark fibers, hair.	3 to 5; white, dotted with brown, wreathed at large end
Eastern meadowlark	Farm fields, meadows	On ground	Dome-shaped with opening on side	Coarse grass attached to surrounding vegetation. Lined with fine grasses, horsehair.	3 to 5; white, many brown spots and blotches
Eastern phoebe	Rocky cliffs, farmland, suburbs	On shelflike projections	Large, thick cup	Weeds, fibers, grasses, mud. Covered with mosses, lined with fine hair.	3 to 6; white, some may have a few spots
Eastern wood-pewee	Forests, yards, roadsides	On tree limb	Thick-walled, shallow cup	Grasses, weed stems, plant fibers, spider webs, hair. Lined with fine materials, covered with lichen.	2 to 4; creamy white, wreathed at large end with brown spots and blotches
Ovenbird	Forest floor	On ground in dead leaves	Dome-shaped with opening on one side	Grasses, plant fibers, weed stems, leaves, rootlets, mosses, bark. Lined with fine rootlets, fibers, hair.	3 to 6; white, dotted with reddish brown, wreathed at end
Red-winged blackbird	Marshes, fields, stream-side bushes, swamps	Near water in bushes, cattails, rushes	Medium cup	Sedge leaves, rushes, grasses, rootlets, mosses. Bound to surrounding vegetation by milkweed fibers. Lined with fine grasses.	3 to 4; pale blue-green, blotched, marbled with brown, black, and purple
Song sparrow	Brushy fields, thickets, farms, suburbs, swamps	On ground in brush piles, under grassy tufts, in low bushes	Small cup	Grasses, weed stems, leaves, bark fibers. Lined with fine grasses, rootlets, and hair.	3 to 5; greenish white, heavily spotted with red-brown

Collecting Your Own Nest Materials—Observation Sheet

1. What bird did you choose?_____

2. Where does that bird nest?_____

_____

3. Describe the kind of nest your bird makes._____

_____

4. How many eggs does it usually lay? What color?_____

_____

5. What kinds of nest materials did you have to find?_____

_____

6. Did you find all of the materials you needed?_____

7. If not, what couldn't you find?_____

_____

8. What makes the missing material(s) difficult to obtain?_____

_____

9. Why might the bird use the materials it does for nest-building?_____

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Collecting Your Own Nest Materials—Observation Sheet

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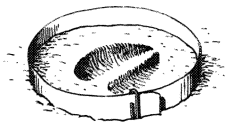
PROJECT 2. Tracking in the Summer

Materials:
1 2/3 cups plaster of paris (available at hardware stores)
1 cup water
a 2-inch-wide strip of cardboard
bowl

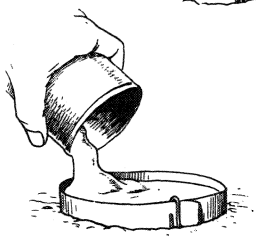
Summer is an excellent time to find tracks in the mud and sand along streams, springs, and ponds. When animals come to the water to drink or bathe, they leave their footprints behind.

Locate a stream or spring in your area and search the edges for tracks. Some of the more common wildlife tracks are included on the next page to help you with identification.

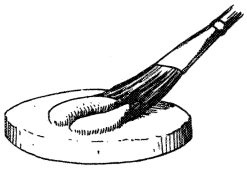
1. Once you have found a set of tracks, choose the clearest one for your project. Make a circle around the print with the 2-inch-wide strip of cardboard. Press it into the mud so that about a half inch of the cardboard is above the ground.



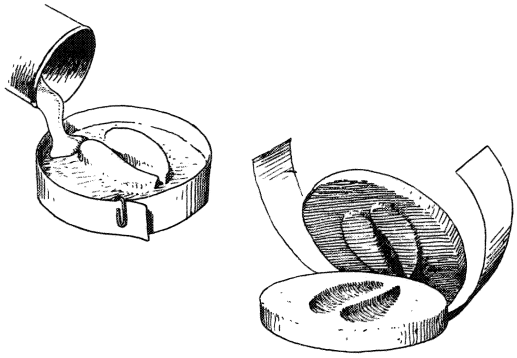
2. Mix 1 2/3 cups plaster of paris with 1 cup of water. Allow plaster to thicken slightly. Carefully pour plaster over the print.



3. When the plaster has hardened (20-30 minutes), remove the cardboard and lift the plaster from the track. Clean gently with a brush. You now have a *negative* cast of the track.



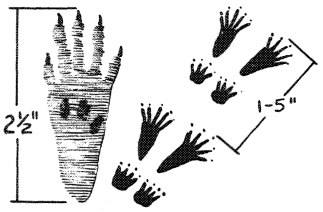
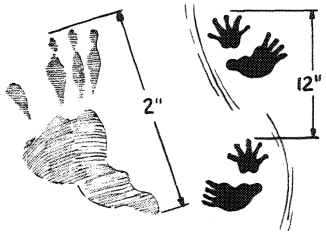
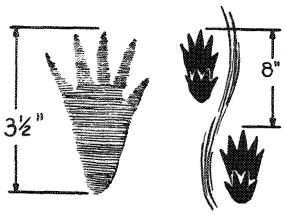
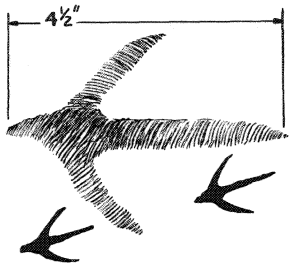
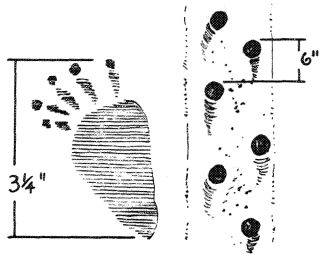
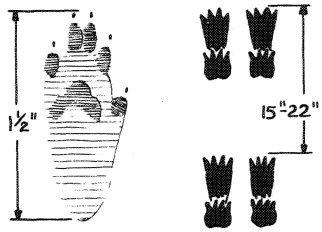
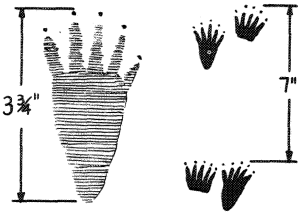
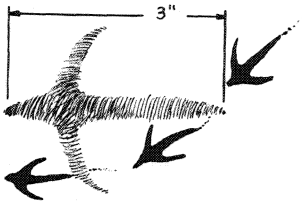
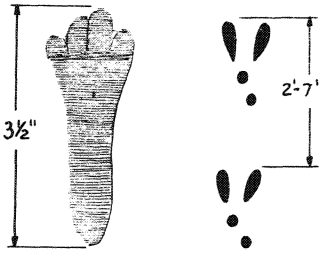
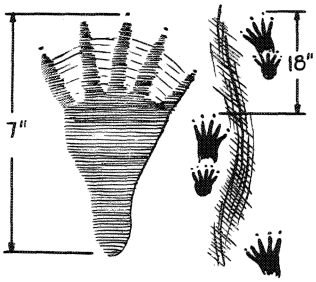
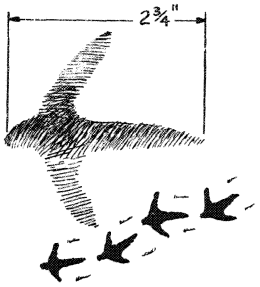
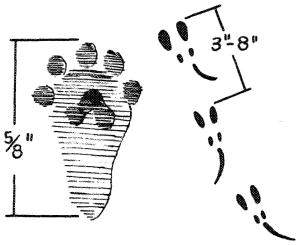
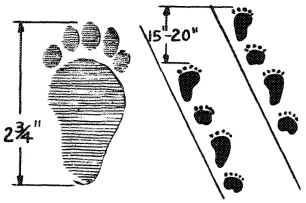
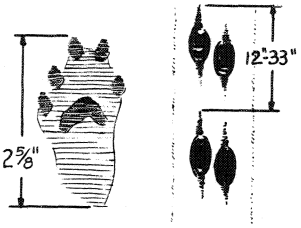
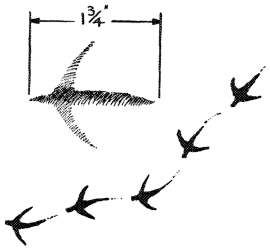
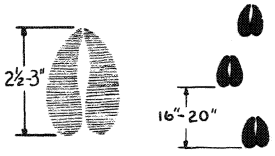
4. To make a *positive* cast, coat the negative cast with vaseline and repeat the casting process in steps 2, 3, and 4.



You can make your track cast special by putting a handle on it or writing something on the back. To make a handle, insert the ends of a heavy piece of wire into the plaster when it begins to set up. Experiment with different materials. Use a toothpick or other sharp object to write your name, or the name of the animal that made the track, on the back of the cast. Write on the cast when it is still fairly soft.

Try to make casts of five different animals, then make a display of your tracks. You may want to try your own footprint or that of your pet.

Wildlife Tracks

FOUND IN WOODLANDS	FOUND NEAR FARM LAND	FOUND NEAR WATER	BIRD TRACKS
 GRAY SQUIRREL	 OPOSSUM	 MUSKRAT	 WILD TURKEY
 PORCUPINE	 WEASEL	 RACCOON	 RING-NECKED PHEASANT
 BLACK BEAR	 COTTONTAIL RABBIT	 BEAVER	 RUFFED GROUSE
 WHITE-FOOTED MOUSE	 SKUNK	 MINK	 BOBWHITE QUAIL
 WHITE-TAILED DEER			

Tracking in the Summer—Observation Sheet

1. What kind of tracks did you find?_____

2. Where did you find the tracks?_____

3. Could you tell if the animal that made the tracks was running, hopping, or walking ?_____

4. If so, how could you tell?_____

_____

_____

5. Did you see any birds or animals while you were making your cast? _____

6. If so, what activities were they engaged in?_____

_____

_____

_____

---

1. What kind of tracks did you find?_____

2. Where did you find the tracks?_____

3. Could you tell if the animal that made the tracks was running, hopping, or walking ?_____

4. If so, how could you tell?_____

_____

_____

5. Did you see any birds or animals while you were making your cast?_____

6. If so, what activities were they engaged in?_____

_____

_____

_____

Project 3. Wildlife Food Quest

Food for wildlife is plentiful during the summer. Choose and collect as many of the foods in the chart below as you can find. Arrange the foods in a display (for example, on poster board, in labeled jars). Beside each food, list at least two animals which eat that particular food. You may be unable to gather some of the foods (small mammals, fish). For these items, you may substitute a magazine picture or something else which represents that item. Be creative!!!

	Insects	Seeds	Earth-worms	Nectar	Small mammals	Twigs, leaves	Grasses, bark	Fruit, berries	Aquatic plants	Acorns	Fish
Snakes	X		X		X						X
White-tailed deer						X	X	X		X	
Robins	X		X					X			
Fox	X				X			X			
Cardinals	X	X						X			
Mice	X	X						X			
Frogs	X		X								
Woodpeckers	X	X						X			
Squirrels		X						X		X	
Rabbits						X	X	X			
Owls	X				X						
Bats	X										
Honeybees				X							
Hummingbirds	X			X							
Wild turkeys	X	X						X		X	
Bluebirds	X	X						X			
Wood ducks		X								X	
Beavers						X	X		X		
Salamanders	X		X								
Turtles	X		X					X	X		
Bass	X		X								X
Kingfishers											X

Wildlife Food Quest—Observation Sheet

1. Where did you search for food? _____

_____

2. Which foods were difficult to find? _____

_____

3. Which foods were easy to find? _____

_____

4. Were there any foods you could not find at all? _____

_____

5. Which animals on the list are herbivores? _____

_____

6. Which animals on the list are carnivores? _____

_____

7. Which animals on the list are omnivores? _____

_____

8. Which group of animals (herbivores, carnivores, or omnivores) do you think would have the most difficult time finding food? Why?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Words to Know

Carnivore—an animal that feeds almost entirely on the flesh of other animals

Cold-blooded—a word used to describe an animal whose body temperature is the same as that of its surroundings

Cover—any material (trees, shrubs, and brush piles, for example) that provides protection to animals

Habitat—the physical area where an animal lives

Herbivore—an animal that feeds almost entirely on plant life

Invertebrate—an animal without a backbone (for example, insects and lobsters)

Molt—to shed or cast off hair, feathers, an outer layer of skin, or horns, etc., the cast-off parts being replaced by new growth

Omnivore—an animal that feeds on both plant life and the flesh of other animals

Preen—to smooth or groom feathers primarily with the beak

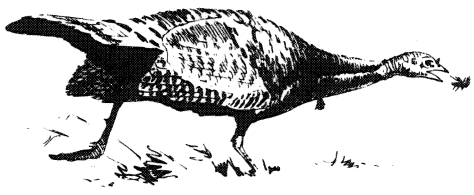
Species—a kind of plant or animal

Vertebrate—an animal with a backbone (for example, a fish, amphibian, reptile, bird, or mammal)

Warm-blooded—a word used to describe an animal whose body temperature remains constant



BROAD-WINGED HAWK



WILD TURKEY



WOODCHUCK

Final Report • Wildlife Is All Around Us • *Summer*

1. What projects did you complete? _____

_____

2. For each project write a story about what you did and what you learned. Did you have fun doing this project? What was the best part? What was the worst part? _____

3. Did you go on any field trips? Where did you go? What did you see?

4-H ACTIVITIES REPORT

This report will help you keep a better record of your club activities. Fill it in as you complete each assignment. Refer to this record when you are entering county, state, and national programs. Ask your local leader to explain these programs to you.

My 4-H Activities Report for the 19 Club Year

Projects taken _____

TV member ☐ yes ☐ no

Program title _____

Offices held

Club _____

County _____

"Show-and-tell" given to:

Family _____

Friends _____

Local club _____

County _____

Regional _____

State _____

News articles _____

Radio _____

TV _____

Things done to improve your health

_____

Community service or citizenship work done

By myself _____

With club _____

Number of meetings your club(s) held this year _____

Number you attended _____

Number of new members you encouraged to join 4-H

_____

Number of boys and girls you helped with projects

_____

In what way? _____

Check those attended and tell how you helped

☐ 3- or 4-day camp _____

☐ 1-day camp _____

☐ Club or county tours _____

☐ Club picnic _____

☐ Countywide picnic _____

☐ 4-H Sunday _____

☐ County fair _____

☐ Achievement programs _____

☐ Roundup _____

☐ Teen Leader Retreat _____

☐ State 4-H Capital Days _____

☐ Camp Leadership Training _____

☐ Penn State 4-H Week _____

☐ Pennsylvania Farm Show _____

☐ National 4-H Week _____

☐ Others _____

_____

_____

_____

Name _____

Address _____

_____

Name of Club _____

Leader's Name _____

Name of Project _____

4-H Club Motto
"To make the best better"

4-H Club Pledge
I pledge
my head to clearer thinking,
my heart to greater loyalty,
my hands to larger service, and
my health to better living, for
my club,
my community,
my country, and
my world.

4-H Club Colors
Green and White

PENNSTATE

College of Agricultural Sciences
Cooperative Extension

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Prepared by Kristi L. Youngfleish, graduate research assistant, School of Forest Resources, and Margaret Clark Brittingham, assistant professor of wildlife resources

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