Kansas 4-H Wildlife
Leader Notebook

Level II

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Leader Note:
Lessons are grouped by subject themes and are not necessarily in sequence. Check the leader notes at the beginning of each lesson for sequence suggestions.
What Members Will Learn . . .

About the Project

• Common characteristics of mammals
• How to use mammal characteristics to determine Kansas mammals

About Themselves

• Use characteristics to see if humans are mammals
• How humans fit into the natural world

Materials Needed

• Pictures of mammals from around the world (from magazines, books, posters, etc.)
• Picture of a bird, fish, snake, or other non-mammal creature
• Chalkboard, notepad, or other surface to display writing
• Pencils
• Pictures of Kansas mammals (from magazines, books, posters, etc.) that have been cut out
• Reference books about Kansas mammals
• Activity Sheet #1, What Makes a Mammal

Activity Time Needed: 45 minutes

Activity

Mammals all possess a set of characteristics, or features, that show that they all share the same group (Mammalia). All mammals:

1) have fur (even whales have hairy bristles on their chins)
2) breathe air (whales must surface to breathe, unlike fish)
3) give birth to live young
4) feed their young milk
5) have backbones
6) are warm-blooded (or endothermic)

Leader Notes

1) Hold up a picture of a mammal with the picture of the non-mammal. Ask the youth if they are the same. You’ll get lots of answers, which is good! You want the youth to start thinking and participating. For example, they are the same in some ways (both animals, maybe both are from the same place, etc.). Substitute the picture of a non-mammal with another mammal picture. Lead into a discussion about the differences and similarities between mammals and non-mammals.
2) Ask how mammals are alike (you may need to give them some examples of mammals). You may need to prompt the group by asking how they keep warm (fur), whether deer lay eggs, etc. Discuss how every mammal fits this description.

3) Break the youth into small groups of three or four. Hand out Activity Sheet #1, What Makes a Mammal. Give each group a cut-out picture of five creatures. Have them determine from observing the picture whether it is a mammal. Can they see a backbone/spine? Does it have fur? They will also need to have you help them look up in the reference books whether the animal bears live young.

4) Have each group tell about one animal, and why it is or is not a mammal.

5) Ask them if they think that they are mammals. Talk about the characteristics, and compare to themselves and their parents.

Activity

With these characteristics, you can figure out if an animal belongs in the mammal group or not. Kansas mammals are animals that fall into this group that have existed naturally in Kansas throughout history. For example, a bison (buffalo) is a Kansas mammal because it lived here throughout history (even though it now lives only in controlled environments). A tiger would not be a Kansas mammal, even if they were released to live wild in Kansas.

Dialogue For Critical Thinking

Share
1. How many mammal pictures did you have?
2. What is the easiest mammal characteristic to identify? Why?

Process
3. What are other characteristics of mammals?
4. What types of living creatures are not mammals?

Generalize
5. What mammal characteristics do you have? Are humans mammals?
6. What is different about humans compared to other mammals?

Apply
7. What are some identifying factors for other creatures?
8. Where do you think you might find mammals in the future?

Going Further

View taxidermy mounts at a museum.
Visit a zoo to observe mammals.

References
Mammals in Kansas, Bee, Glass, Hoffman and Patterson (1981)
Mammals, Zimm and Hoffmiester (1987)

Authors
Deb Hiebert, Education Director, Botanica
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Reviewed by
Wildlife Review Team
Give each group five pictures of living creatures to determine if they are mammals.

Make a check (√) or X in the box for each characteristic present.

<table>
<thead>
<tr>
<th>Pictures</th>
<th>Have fur</th>
<th>Breathe Air</th>
<th>Give birth to live young</th>
<th>Feed young milk</th>
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<th>Warm-Blooded</th>
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Which creatures meet all the characteristics? These are mammals!
Feathers and Eggs

Wildlife Groups

What Members Will Learn . . .

About The Project
  • Characteristics of birds
  • How to use bird characteristics to determine if an animal is a bird
  • That birds live in all different habitats around the world

About Themselves
  • The benefits birds provide humans

Materials Needed
  • Poster paper, large sheets of butcher paper, or other large writing surface
  • Pictures of birds (from books, magazines, etc.)
  • Pictures and descriptions of birds from around the world (three different ones), such as a road runner, penguin, ostrich, etc. (try to include one Kansas bird)
  • White drawing paper
  • Crayons, markers, etc.
  • Activity Sheet #2, Create a Bird
  • Flip Chart

Activity Time Needed: 60 minutes

Activity

Birds all share certain characteristics, or features. These are:
(1) Feathers (some birds, like penguins, have modified feathers)
(2) Wings (again, some are modified)
(3) Lay eggs instead of bearing live young
(4) Have beaks

Let’s look at some creatures to see if they are birds.

Leader Notes

When choosing your pictures and descriptions of birds from around the world, try to include one Kansas bird. The descriptions don’t have to be long – just a few sentences, but should talk about what the bird eats, where it nests, what natural community it lives in (desert, forest, etc.), and any other interesting facts. You are trying to encourage the children’s imaginations. Attempt to choose pictures of birds in their habitat.

1) Show some pictures of birds. Ask the group what these creatures are. Have them brainstorm about what these creatures have in common. Write the list of common characteristics on a flip chart. Discuss whether all birds have the features you have listed (for example, someone may have said they all have black feathers, but not all birds have black feathers). Finalize the list using the characteristics listed above.

2) Read to the group the stories or descriptions about some birds from around the world, showing the available pictures.

3) Divide the youth into groups of three. Explain that they are each ornithologists (scientists who study birds), and that they are exploring somewhere on Earth. The group gets to choose where they are (jungle, desert, etc.). They have just seen a bird, and they don’t know what kind it is. They need to use their observation skills to draw the bird and record facts about it, then name it. They must work together to create this mystery bird. It must fit all of the characteristics, but they can be as creative as they want otherwise. Each individual should draw their version of the discovered bird and fill out Activity Sheet #2, Create a Bird.

4) Hand out the activity sheets, pencils, and crayons. Let the groups know how much time they have to work.

5) Have each group stand up and talk
about their bird. They can tell the facts from the activity sheet and show the pictures.

6) Wrap up with an overview of bird characteristics. Have them put the activity sheet in their record books.

Dialogue For Critical Thinking

Share
1. What type of bird did you create? Why?
2. What parts did your bird have that made it fit the region of the world you selected?

Process
3. What are the common bird characteristics?
4. What makes birds different from mammals?

Generalize
5. What human food items come from birds?
6. What other things do birds provide humans?

Apply
7. When do birds and humans share a common space?
8. How do you plan to enjoy birds in the future?

Going Further
Take a walk and observe and identify birds. Go bird watching!
Visit a zoo or museum with birds.

References
Songbirds in Your Garden, Terres (1994)

Authors
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Reviewed by
Wildlife Review Team
Each team should create a bird for the region of the world they select.

Team members: _______________________________________

World region: _______________________________________  

What is the name of your bird? ____________________________  

What does it eat? _____________________________________  

What color are the eggs? How big are they? ____________________  

Our Bird Drawing
Dynamic Dwellings

Ecosystems and Habitats

Wildlife, Level II

What Members Will Learn...

About The Project

• How different species of wildlife are adapted to living in certain communities and using specific dwellings

• The habitat needs of a species of Kansas wildlife

About Themselves

Their preferences for the habitats and communities in which they live

Materials Needed

• Animal cards with pictures (a 5”x7” index card with pictures of an animal and its dwelling cut from old magazines and glued on the unlined side of the card, with information on the lined side of the card).

• Pencils

• Activity Sheet #1, Animal Ad

• Classifieds featuring real estate/housing ads.

Activity Time Needed: 60 minutes

Activity

Brainstorm and list types of communities found in Kansas. (May include streams, ponds, rivers, prairies, farmland, woodlands, yards, parks, schoolyards, college campuses, vacant lots, “weedy” fields in subdivisions, etc.)? What kind of animals live in Kansas, and what kind of shelters do they use? (We have houses, apartments, duplexes, etc., what do animals have?)

We are going to write a classified ad for a species of Kansas wildlife. I am giving you an animal card that you should keep secret from the other youth. Use Activity Sheet #1, Animal Ad to write an ad for the house and community of your animal.

Leader Notes

Review Level I lessons Can’t Do Without It, Shared Spaces, and Wild and Domestic. You will need to be familiar with habitat and community so that you can pass the concept on to the group.

Review classified advertisements with the members. Read them a couple that describe houses, neighborhoods, etc. Make up your animal cards before the meeting, one for each person. Select a species of Kansas wildlife. Try to select species that you will be able to find pictures of in the magazines (suggestions include red-tailed hawk, white-tail deer, mule deer, squirrels, different birds, beaver, muskrat, and any others that you can find pictures of with their dwellings). Cut and paste a picture of the animal onto the unlined side of the index card, along with a picture of its dwelling (hawk with nest, beaver with lodge, deer with bedding spot, etc.). Put the name of the animal on the top of the lined side of the card, with the following information: What type of community does this animal live in? (Desert, woodland, prairie, city, etc.) Does it have any special needs in its habitat? What does this animal eat? What are the predators of this animal? What kind of home does this animal make for itself? What materials does it use for this?

Have each individual read their ad, and see if the group can guess the animal. They will probably be able to get close, but not the exact species. Then have each child read their card and show the pictures on the front, so everyone can see and hear about the animal. Discuss the different types of shelters that they heard advertised. Why don’t the animals all live in the same type of shelter? Talk about the animals that didn’t “build” a shelter. What did they need to raise young and be safe while they slept?

Go outside and look for animal shelters. This can range from a wasp nest (don’t annoy them, of course), bird nests, squirrel...
rel nests, and insect holes. This can be a very brief trip. Discuss the shelters and animals as you go (don’t have to know what animal live there, just ask why it is a good shelter, what the animal had to have to build it - materials or “tools” like feet that dig, etc.).

Come back and discuss the types of shelters that humans use. Talk about our local shelters (houses, apartments, etc.), and also include some “exotic” shelters, like skin tents, grass huts, etc. What do all humans need from their shelter? Why do we have different ways of providing this? Why doesn’t everyone who lives in a similar community (like a suburb, city, small town, or rural area) all live in the exact same type of shelter (some folks don’t want a lawn to take care of while others are gardeners, etc.)? What type of shelter do they think they want to have when they are adults?

Dialogue For Critical Thinking

Share
1. What type of animal shelters did you find on your field trip?
2. What animal shelter did you describe in your ad? Was it easy for the group to identify? Why? Why not?

Process
3. What is the difference between a habitat and a community?
4. How do animal dwellings fit their habitat and community?

Generalize
5. What kind of shelter do you have? How does it meet your needs?
6. What is the difference between your shelter needs and your desires or wants?

Apply
7. What is the housing (human shelter) trend in your community? Is this trend fulfilling needs or wants? Why?
8. What do you think the housing trend will be when you are an adult? Why?

Going Further
Visit a zoo and compare the dwellings to those in nature.

References


*City Animals*, Zoobooks (KDWP)


Authors

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*Libby Albers*, Naturalist

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Reviewed by

Wildlife Review Team
Animal Ad

For Sale:

Number of Rooms:

Building Material:

Neighborhood:

Security:

Price:
What Members Will Learn...

About the Project
- Habitat for some animals exists in very small areas
- The signs that indicate animal use of an area

About Themselves
- How to fine tune their observation skills

Materials Needed
- Hula hoops or circles of string that are the approximate size of a hula hoop (one for every two or three youth)
- Activity Sheet #2, The Little World
- Clipboards or other sturdy surface for writing outdoors
- Pencils
- Hand lenses or magnifying glasses (at least one per group; best if one per child)
- A natural area with enough room for the youth to spread out and work in small groups

Activity Time Needed: 60 minutes

Activity
Habitat can be found in very small places. Some insects and animals need very little space (by human standards), so we have to look closely to find them. We will be looking at a piece of ground very closely to find indications of animal use. Some of the signs to look for include live animals, animal carcasses, shed skins (from insects and reptiles), bits of fur, tracks, chewed items (from creatures munching), animal shelters, webs, scat (scientific word for manure), and more.
hula hoops/string and the lenses, going over how to use them. Hand out Activity Sheet #2, The Little World, clipboards, and pencils, and take the group out to the natural area.

Have each group toss their hula hoop or string out onto the ground (have them spread out a little). If using string, they should open their string up into a circle on the ground where it landed. Each individual should fill out the observation portion of their sheet (or each group, if they are not using this for project notebooks). Let the youth explore for as long as they are interested, staying in the same spot with their hoops (if they stay in one place, they are more likely to look closely enough to see some small animal signs). If they are into it, let them do a second hoop throw, or let them “show and tell” their hoops to the other groups. Pick up the hoops/string.

Return to your meeting room. Have each group work together to write a statement to the officials about whether the piece of land in question is habitat or not. They should include definite examples if they want the officials to believe their observations. Have each group read their statement to the whole group (for added fun, you can have a few older 4-H’ers, school principal, parents, etc. act as officials to give them the “assignment” at the beginning, and listen to their statements).

### Dialogue For Critical Thinking

**Share**

1. What did you find in your mini-habitat?
2. What observations were a surprise? Why?

**Process**

3. How big or small can a habitat be?
4. What signs tell you that a creature is using an area?

**Generalize**

5. What did you learn about your observation skills?
6. How can you decide the significance of a habitat?

**Apply**

7. What conflicts occur between people and other creatures habitats?
8. What can be done to restore habitat or allow more sharing of animal and human communities?

### Going Further

Explore a place that all agree is not a habitat to see what you find.

**References**


*Nocturnal Animals*, Zoobooks (KDWP)

**Authors**

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**Reviewed by**

Wildlife Review Team
Animals seen (draw or list):

Signs that animals have left behind:

My statement – Should this habitat be saved or not? Why?
What Members Will Learn...

About the Project

• All animals live in unique habitats
• Differences between human made habitats and natural habitats

About Themselves

• The concept of quality of life

Materials

• Activity Sheet #3, Man-made Habitats
• Pencils
• Clipboards
• Magazines, books, or field guides containing pictures of animals in their natural habitat (the books listed in the reference list contain pictures of a variety of common zoo animals)

Activity Time Needed: Field trip (Possibly 2 hours, etc.)

Activity

Although habitats around the world may appear different, they are all made up of four basic components: food, water, shelter, and space. It is the arrangement of these four elements that create different habitats. Consider the ocean and the prairie: both have water but in different amounts, both have food but what the food is depends on the animal living there. Shelter is usually an easy concept for youth, but explain to them that shelter includes the animal’s fur, feathers, or protective adaptations just like our shelter is not only our house or apartment but also our clothing and hair.

Space that animals live in is often limited and it is sometimes easier for an animal to move rather that to create a bigger space. Animals do move around in an extended living space or range. So do you. Your “home range” may include a school, a fast food restaurant, a friend’s house, or several other places that you visit frequently. An animal’s home range may be where it sleeps, hunts, or looks for mates.

Leader Notes

Space is a little harder to grasp. Use an example that the youth can relate to the room where you meet. Can that room hold ten people? Twenty? Fifty? One hundred?

By taking a field trip to the zoo, the group will have a chance to look at different exhibits and see if they meet the animal’s needs. If you have an old zoo in your area, you probably have some old square cages with bars — even zoos that are remodeling will likely still have some of these older displays. If it is possible to visit a zoo with newer, open-style exhibits, then the students will have a better grasp of the elements of habitats. Ask the youth what type of display would be most comfortable for the animals, the easiest for the zoo staff to maintain, and the most enjoyable to watch the animals.

Explain to the group the elements of a habitat. Tell them that although the habitats may look very different, the animals within those habitats all have the same basic needs: food, water, shelter, and space. Tell them that they are going to visit a place where they can see habitats from all over the world.

Before leaving on the field trip have them take about 10 minutes to look through books or magazines at animals in their natural habitats. Most of the youth will already have a good idea of what a lion’s habitat looks like, or what an alligator’s habitat looks like.

At the zoo, divide the youth into groups of three and familiarize them with Activity Sheet #3, Man-made Habitats. (You know your group — either keep them generally together or turn the groups of three loose after you have designated a place and a time to meet.)

After you have completed your time at the zoo discuss what each group observed. Were there predominantly cages or did the zoo try to recreate the animal’s habitat. How did the habitat
compare with the photos of animals in the 
wild? Was there enough space in the zoo 
exhibits or were there too many animals? 
How could you tell? Did the zoo put in 
artificial items that imitate natural things 
found in the animal’s habitat? These ques-
tions should make the group realize how 
difficult it can be to take care of wild ani-
mals.

Dialogue For Critical Thinking

Share
1. What animal habitats did you observe?
2. Which display was the most natural? Why?

Process
3. What are the common characteristics of habitats?
4. How can zoos improve the habitat and the quality of life for the 
animals?

Generalize
5. What factors affect your quality of life?
6. Which are the most important to you? Why?

Apply
7. What can you do to improve your family’s quality of life?

Going Further
List the items in your room that are needs as opposed to wants. 
Compare to a list your parents had as a child. How did the quality of life 
differ?

References

Sharing the World with Animals, Zoobooks (Available from Kansas 
Department of Wildlife and Parks (KDWP) 512 SE 25th Ave. Pratt, KS 
67124-8174)

Parrots, Zoobooks (KDWP)
Elephants, Zoobooks (KDWP)
Hippos, Zoobooks (KDWP)
Chimpanzees, Zoobooks (KDWP)
Zebras, Zoobooks (KDWP)

Authors

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Research and Extension

Reviewed by
Wildlife Review Team
Fill in the blanks according to what you see. Remember to list the parts of the habitat (is there enough space, water, shelter, food?).

| Animal on exhibit: __________________________ |
| How many animals |
| are in the cage or display? ____________________ |
| Describe or draw a picture of the display: | Animal on exhibit: __________________________ |
| How many animals |
| are in the cage or display? ____________________ |
| Describe or draw a picture of the display: |
A Special Home

Living in the Wild

What Members Will Learn...

About The Project

- Galls as temporary habitat for insects and other tiny creatures
- How galls are formed
- The life cycle of a gall-forming insect

About Themselves

- How their housing needs are different from people in other climates
- How their actions affect other people

Materials Needed

- Insect galls (see leader notes for collection options)
- Craft knives
- Cutting board or other surface safe for cutting open galls
- Pencils
- Activity Sheet #4, Gall Investigations

Activity Time Needed: 60 minutes (120 minutes if you include a gall hunt)

Activity

We will be looking closely at galls on plants caused by insects. A gall is an abnormal growth of plant tissues, caused by contact from another plant or an animal. It is a defensive or protective action. Some insects lay eggs in a plant, which then swells to form a gall. This is caused either by physical irritation (like a clam covering a grain of sand which makes a pearl) or reaction to a chemical injected by the insect. The insect egg hatches into a larva, which will live in the gall until it reaches a mature state. The insect causes the plant to form a gall, which the insect then takes advantage of as a habitat that provides food and protection. In North America there are over 1500 different insects that cause gall formation in plants.

They may be found basically anywhere you find a lot of vegetation. Galls are found in stems, leaves, and flowers of plants.

Leader Notes

Review Save the Little Worlds.

You can either use a meeting time to collect the galls, or have the members collect them before the meeting. If you chose to have the members collect the galls, take five minutes at the end of the meeting to talk about galls, and then the task of bringing some to the next meeting.

The youth will be using craft knives for cutting open the galls, so supervise them closely. One aspect of this project may pose a challenge as some youth may carry pocket knives, which they will want to use to open the galls. You need to decide before the meeting how you will handle this. If you are meeting in a school that is a “Weapon Free Zone,” you don’t want youth taking out pocket knives, as that puts you in a bad position. You also need to be able to supervise the use of all knives, which may be a little more difficult if a child owns his/her own.

Go gall-hunting, if that is part of your meeting time. Each youth should bring back no more than three galls to study. Examine the galls you found. Do you see any holes where an insect might have gone in or come out? How has the swelling affected the plant? What does it look like? Is the plant dead? If so, do you think it is because of the gall? Divide the group into pairs, and have them make observations about two different galls. Complete the first portion of Activity Sheet # 4, Gall Investigations.

Have each youth cut open a gall for the pair to examine. They should make observations and sketches about both galls on their activity sheets, comparing and contrasting the two. Let them look at the galls from other groups, especially if there are live insect larva or other interesting things.

Clean up the galls (some youth may want to take them home). Using the reference books, have each pair research the life cycle of a gall-making insect and finish the activity sheet. Have each pair tell the
Dialogue For Critical Thinking

Share
1. How many types of galls did you find?
2. Where did you find the most galls?

Process
3. What affect does a gall have on the plant? Why?
4. How do insects use the gall?

Generalize
5. How are galls similar to or different from other creature dwellings?
6. How can completely different habitats still meet the needs of each creature?
7. Why are housing needs different for people from one environment to another? (Compare Arctic to Tropic, etc.)

Apply
8. What other organisms do you know that live together or benefit from each other?
9. How do your actions affect other people in your family or at school?

Going Further
Have a wildlife biologist discuss symbiotic relationship.

References
Insects in Kansas (S131), Order from Production Services, KSU, 24 Umberger Hall, Manhattan, KS 66506-3402
Insects, Zoobooks (Available from Kansas Department of Wildlife and Parks (KDWP) 512 SE 25th Ave. Pratt, KS 67124-8174)
Insects 2, Zoobooks (KDWP)
Peterson Field Guides: Insects, Borror and White (1970)

Authors
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Reviewed by
Wildlife Review Team
A. Gall Hunt

1. Where did you find your gall/galls (field, woods, vacant lot, etc.)? Tell about the natural community where you found the gall.

2. Describe where on the plant you found the gall. Was it on a leaf? Close to the ground?

3. What was the plant like? Was it a vine? Did it have a tall stem? Describe the plant.

B. Looking Closer

1. Draw a picture of your gall.

2. How big is your gall? Like a marble? A big jawbreaker? Is it fairly round, or more like an egg?

3. What color is it? What is the texture of the outside (bumpy, ridged, perfectly smooth)? Describe the gall. Now lay your paper over the gall and do a pencil rubbing to show the texture.
4. Can you see any holes in your gall? How many? Little holes or big holes?

C. A Look Inside

1. After you cut the gall open, lay the two halves out and make some observations. What is inside? What is the color and texture? Can you see an insect larva? Can you see where one might have been?

2. Draw a picture of the inside of one half of your gall.

3. Dig around inside the gall. Can you find an insect? If not, can you find any signs that one was there? Where did it go?

4. Is there anything else interesting about your gall?
What Members Will Learn...

About the Project
- Insects have special adaptations that allow them to use nectar for food.
- The importance of flower shapes
- Why the insect/flower relationship is beneficial to both (symbiotic relationship).

About Themselves
- When they are dependent on others and when they can help others

Materials Needed
- Different types of flower blooms
- Pictures of different nectar-eating insects (option)
- A straw
- A Sponge
- A bud vase with Kool-aid
- Construction paper
- Tape
- Scissors
- Six foam or plastic cups filled with fruit drink
- An area with blooming plants (the more numerous and varied the types of flowering plants, the more interesting the activity will be. Suggestions include: private yards/gardens, museums, public gardens, arboretums, parks, native prairie fields, in front of office buildings where flowers are planted, a garden center, a community garden, etc.)

Activity Time Needed: 60 minutes

Activity
Most nectar-eating insects have sucking, lapping, or sponge-like mouth parts. Flowers are shaped to attract certain types of insects. For example, a morning glory or trumpet vine flower are made to attract bees and flies, because a butterfly can't get down to where the nectar is due to its large wings.

You will show this with the bud vase filled with Kool-aide and some construction paper. Wrap a piece of construction paper around the top of the vase (narrow end of paper around the mouth of the vase). Flare
Go outside to the area with blooming plants. Spend at least 20 minutes observing the flowers and the insects visiting them. Most insects will ignore humans and go about their business as long as you move slowly, don’t try to get too close or touch them, and are fairly quiet. How many different types of insects can they find? Does any type of flower just have one type of insect visitor? Can they see pollen on any of the insects (look for yellow dust on the bodies of bees, etc.). What interesting color techniques do the flowers use to attract insects or guide them to the nectar? Are any blooms not being used at all? Can you tell why not? Spend this informal time observing and sharing the interaction between blooming plants and insects.

Go back inside and allow time for sharing. Discuss how both the insect and plant benefit from their relationship. Ask what would happen if all of one type of plant disappeared. What about all bees? Discuss why each species is important.

If you fill the vase completely to the top, you can show that the sponge would work to suck up nectar. Most nectar-eating flies, bees, etc., have either lapping mouth parts or sponge-like parts.

Now use construction paper to cut out large flower petals. Put your foam cups with fruit drink in a group, and tape the petals to the tops of the cups. This illustrates a flower like a daisy, coneflower, or sunflower, called a composite flower. Any insect can access the nectar. Some of these types of flowers, though, have the nectar in the bottom of a deep cup (like the bud vase only half full), so that only butterflies, or other insects with long, sucking mouth parts, can reach the nector.

Any composite flower is perfect for butterflies. They have a special mouth part called a proboscis, which is just like a straw. Butterflies keep their proboscis rolled up when not sucking food, so it’s out of the way. Flowering plants produce nectar for the sole purpose of attracting insects. Nectar is necessary only to entice the insect to come in contact and help spread the pollen to other plants.

Pollen is referred to as plant sperm and carries genetic information. It needs to be distributed to female flower parts, which also have genetic information. Once pollen is spread to the female parts, the plant can make seeds. Pollen may also be carried by the wind; these plants have small flowers with little or no nectar. Grass is an example of wind pollination. Grass has very small blooms, and no nectar, so insects aren’t attracted.

Insects spread pollen in many ways. Some are fuzzy, and the pollen sticks to their bodies and is brushed off when they visit the next flower. Some plants, especially the flat flowers like sunflowers, can have pollen sacks. These are bundles of pollen between each little cup of nectar. When an insect lands, its legs go down between the nectar cups to find a good place to land.

The pollen sack is caught around the leg (like strap-on weights), and when the insect jerks its leg out, the pollen sack stays on the leg. At the next flower, the insect leaves the sack it has on its leg, and has another one stick on. The insects aren’t doing this on purpose— they are just after the nectar. The plants make food for the insect, which passes around pollen that lets the plants reproduce. This is called a symbiotic relationship (when two organisms need each other to survive, without either being harmed).

Some insects take nectar and don’t exchange pollen, which doesn’t harm the plant, but doesn’t help it, either. For example, some plants have pollen that sticks to the fuzzy body of a bee, fly, or butterfly, but if an ant crawls inside to eat, the pollen won’t stick to the slick ant body.

Some plants have several insects that spread pollen, but some rely just on one type. Also, some insects need a certain type of plant (butterfly larva will sometimes only eat plants of one or two species).

When going on your observation walk, be aware that some of the modern plants that are bred for huge, long-lasting flowers don’t actually produce nectar and/or scent. Insects are attracted to plants through color and scent. So try to have some “old-fashioned” plants or native plants in the area, too. Also, some plants have special coloration to guide insects
to the nectar/pollen, like spots or different colors leading inside. In fact, a composition flower is not really one flower. Each cup is a flower, and the petals are around the outside just to attract insects.

**Dialogue For Critical Thinking**

**Share**
1. How many different flower shapes did you observe?
2. How many different insects did you see?
3. Were most insects on only one flower type or several? Why?

**Process**
4. How do plants attract insects?
5. What is pollen and why is it important to a plant?
6. How do insects spread pollen?
7. How do pollen spreading insects benefit from the plant?

**Generalize**
8. Why are there so many shapes and colors of flowers?
9. How and when do you help other people? Why?
10. When are people totally dependent on others for their care?

**Apply**
11. How can your wildlife group help other people? When?

**Going Further**

Take flowers to a nursing home or a shut-in and talk about what you have learned.

Give a talk to a civic group about flower power.

**References**

*Insects in Kansas* (S131), Order from Production Services, KSU, 24 Umbarger Hall, Manhattan, KS 66506-3402


*The Bee Book*, Daphne Moore (1976)


*Butterflies*, Zoobooks (Available from Kansas Department of Wildlife and Parks (KDWP) 512 SE 25th Ave., Pratt, KS 67124-8174)

*Insects*, Zoobooks (KDWP)

*Insects 2*, Zoobooks (KDWP)

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**Reviewed by**

Wildlife Review Team
Special Adaptations: Animal Senses

Living in the Wild

What Members Will Learn...

About The Project

- Animals rely on some of their senses more than others
- The physical characteristics of wild animals and experiencing the ways that these animals perceive their world

About Themselves

- How they can imitate nature

Materials

- Seashells, nuts and bolts, and other distinct-feeling objects that will tolerate being wet and that will also sink
- Pictures of Kansas animals
- Blindfolds
- Bowls for water
- Water
- Cotton balls
- Towels
- Items with distinct smells like an orange, cinnamon, and peanut butter

Activity Time Needed: 60 minutes

Activity

All animals rely on their senses for finding food, protection, and for daily life. The five senses humans rely on are touch, taste, smell, hearing, and sight. As humans, we use our sense of sight and hearing more than our sense of smell and touch. Other animals however, may rely on other senses a great deal more: nocturnal animals (animals who are active during the night) tend to rely on their sense of sight and hearing. Since the animals that mainly eat plants and grasses (rodents, rabbits, and deer) are usually prey for other animals, they rely on their sense of hearing and smell. Predatory birds like the red-tail hawk use predominantly their sense of sight. Scavenging animals like opossums use their sense of smell to find the decaying foods that other animals avoid. Raccoons like food that is found in the water, crayfish and mussels, and thus use their sense of touch to find those special foods.

Leader Notes

Through this activity your group members will heighten their “animal” senses. They will have sharper hearing, a better sense of smell, and a heightened sense of touch.

Pass around the pictures of Kansas animals and ask the youth to verbally list some similarities and differences about what they observe. This will most likely begin with the physical characteristics. Ask them to make some guesses about the animals’ lifestyles based on their physical appearance. (If they have not drawn a connection between the ears and hearing, lead them in that direction.)

Ask the group what senses do people rely on? What do they think they rely on the most? Tell them that they are going to change the way they see the world by imitating the sense of some of the animals that they were just observing.

HEARING: First ask the group to use their hand to imitate the animals in the pictures. This is best done by cupping your hands in the shape of “C’s” and hooking your thumbs behind your ears. Have everyone face the front of the room and, using their hands, make animal ears. Stand behind them and whisper something — they won’t hear very well. Now have them twist their ears (not their bodies) in the direction of the sound. Whisper again and wait for their reaction. They should have heard you loud and clear. This may spark ideas about their pets — they have probably seen dogs or cats twist their ears around rather than move their bodies.

TOUCH: Explain to the group about the raccoon — an animal who is nocturnal and who looks for food under water. Ask the youth how they think he is able to find his food in the dark, in the mud, and under water. Tell them that they are going to be raccoons. Blindfold the youth. Fill the bowls with water and place an object in the bowl. Tell them that they are not to say out loud what they think the object is. After each of them have had an opportu-
nity to feel the object, see if they can identify the object. Were they able to feel more detail than if the object was dry? For a challenge, put a large amount of one object in the bowl like bolts and one distinct object like a penny and have the youth feel around the unique object. This mimics a raccoon searching for crayfish among sand, rock, and roots.

**SMELL:** Ask the group how they think they could improve their sense of smell. As a hint ask them about their pets and what their noses are like. Blindfold the members and ask them to open their hand. Tell them that you are going to place a wet cotton ball in their hand. Give each individual a wet cotton ball. Tell them to dab a little water from the cotton ball on their nose and to keep their nose wet through the activity. Then tell them that you are going to hold something under their nose that has a smell that they will know. Ask them not to say out loud what they think that smell represents. Once all of the smells have gone around the room, have them remove their blindfolds. Did they recognize the smells? Were the smells clearer because of their wet noses? Discuss.

**Dialogue For Critical Thinking**

**Share**

1. Which animal sense did you enhance the most? Why?
2. What sense do you think is most important? Why?

**Process**

3. What animals rely more on their hearing? Touch? Smell?
4. How do these sharp senses aid each animal in their environment?

**Generalize**

5. Which sense do you use most? Why?
6. How do you think you would adapt if you lost one sense?

**Apply**

7. Try to do a common activity without one sense. (Blindfold, ear muffs, etc.) How did you adapt?

**Going Further**

Invite a blind or deaf person to your group and discover how they adapt.

**References**

*Sharing the World with Animals*, Zoobooks (Available from Kansas Department of Wildlife and Parks (KDWP) 512 SE 25th Ave. Pratt, KS 67124-8174)

*City Animals*, Zoobooks (KDWP)


*Owls*, Zoobooks (KDWP)

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Wildlife Review Team
Missing Components

People and Wildlife

Wildlife, Level II

What Members Will Learn...

About The Project

- Extinction is a natural part of life on earth
- Human actions have increased the rate of extinction
- How to slow the rate of extinction in some species

About Themselves

- There is a final end-point when something will never exist again.

Materials

- Pencils
- Flip chart and markers
- Activity Sheet #5, Extinction

Activity Time Needed: 60 minutes

Activity

The topic of extinction can be hard to grasp. Extinction occurs when a species no longer has suitable habitat or no longer exists anywhere on earth. There have been cases of animals that were thought to be extinct and then found many years later living in very small, isolated areas. Isolation from human impact often insures the survival of some species. Sometimes, our actions reach far beyond their intended means, for example, the chemical DDT affected bald eagles and many other birds of prey. DDT was a chemical that was widely sprayed to control insect pests. Animals ate the treated insects and stored the chemical in their bodies. The high levels of DDT that were present in the small animals grew to extreme levels in the eagles as they ate many of the smaller animals. This concept is called “bio-magnification.”

The chemical magnified, or grew larger, the higher it went up the biological food chain. The chemical prevented the eagles and other birds of prey from producing strong eggshells. When the birds sat on the eggs to incubate them, the shells crushed. The lack of offspring brought the eagles close to extinction.

It is not always the addition of things to a species’ environment that causes extinction. More often it is the removal of the elements of the habitat that causes harm. Animals need adequate food, water, shelter, and space to maintain a healthy population. When one or a multiple of items are removed the populations of animals suffer. When Mount St. Helens erupted, food, water, and shelter were destroyed. The animals and humans present on the mountain during the eruption perished. This does not mean that those animal species became extinct, even though

Leader Notes

Your youth will brainstorm how they think extinction occurs.

Pass out Activity Sheet #5, Extinction. After they have completed the activity sheet, list answers on a flip chart and discuss as a group.

Tell the youth that they are going to demonstrate what happens to an animal population when elements of their habitat are removed. First have them stand in a circle. Make sure they are very close to each other.

The members will now represent a habitat. Each of them represents an element in a habitat: food, water, shelter, or space. Go around the circle and have them “number off” using “food,” “water,” “shelter,” and “space” instead of numbers.

Have the group turn to the right until they are looking at the back of the person in front of them. In order to be close enough for the activity to work, have them scoot closer together. Tell them that on the count of three, they will sit down on the lap of the person behind them. (It may take a couple of tries to get beyond the giggling and make this work.) What this represents is the interconnectedness of the elements of habitat. For a stable circle, all the components must be present.

Now ask all the individuals who represent shelter to step out of the circle. You may want to create a situation as to why the shelter would disappear from the habitat (logging in a rainforest, filling up the prairie for agricultural uses, removal of dead trees in urban areas).

Now that “shelter” is not a part of the habitat, ask the individuals (without scooting any closer to one another) to sit down on the lap of the person behind them. It is impossible to create a stable habitat after removing one of the components.

Ask the group what would happen to the
animal species that live in this habitat. Compare the natural and unnatural ways that habitat components are removed.

individual populations were killed. For extinction to happen, there must be either a widespread die-off of a broad population (this doesn’t typically happen), or the population must already be reduced to small numbers before an event like an eruption, flood, or drought.

Unfortunately, the actions of humanity have been blamed for reducing population numbers so that species are vulnerable to catastrophic events and cannot bounce back from seasonal strains such as floods and droughts. There are many instances that can be found in the news and in textbooks. It is often our desire for adequate human habitat that puts pressure on animal species.

The major cause of extinction is a loss of habitat. There are misconceptions that you may need to address. For example, there is a difference between modern hunting practices and the market hunting of the past. It was not too long ago when a person could kill as many ducks, deer, beaver, bison, or any other species as they wanted and sell the meat, hides, feathers or eggs on the open market. Today there are limits on animals killed, seasons that they can be hunted and blanket protection for many migratory birds. The old hunting practices did lead animals to near extinction or beyond. However, today’s practices actually regulate and help populations (since we have removed most natural predator hunting that is designed to imitate the thinning that wolves, cougars, and bears would have done).
Dialogue For Critical Thinking

Share
1. How well did the group sit go the first time?
2. What did you have to do to make it successful?

Process
3. What happens when a basic component of a habitat is removed?
4. When have people caused extinction to speed up? Why?
5. What might be considered a natural extinction? Why?

Generalize
6. What can people do to prevent extinctions?

Apply
7. What can people do to create habitats where they can co-exist with animals?

Going Further
Visit a game preserve and talk about habitat preservation.

References
50 Simple Things You Can Do to Save the Earth, The Earth Works Group (1989)
Kansas Threatened and Endangered Species, Kansas Department of Wildlife and Parks

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Reviewed by
Wildlife Review Team
Individually answer these questions:

1. What does extinction mean?

2. What causes extinction?

3. How do people affect extinction?

4. What do you think is the major cause of extinction? Why?

5. How have people prevented extinction?
What Members Will Learn...

About The Project
• Habitats can be created, destroyed, or changed to grow over time.
• Some wildlife is enjoyable — while other may be a nuisance.

About Themselves
• How they influence the habitat of wildlife.
• They cannot control what wildlife visits their project.

Materials
• Old gardening magazines that can be cut up
• Activity Sheet #6, Building a Backyard Habitat
• Scissors
• Glue
• Pencils

Activity Time Needed: 60 Minutes

Activity
You have learned the requirements necessary for a good habitat in the activities, Can’t Do Without It and Habitat Observation Walk from Level I. Now we will go one step further and learn how to change everyday backyard habitat into wildlife habitat.

Common backyard animals include songbirds (sparrows, cardinals, robins, blue jays, finches, chickadees, nuthatches, wrens, and woodpeckers), blackbirds and starlings, squirrels, opossums, raccoons, rabbits, mice, turtles, snakes, butterflies, bees, other insects, and toads. Some of these animals are exciting to see when they enter a yard. Songbirds can provide seasons of enjoyment. However, some wildlife is less desired by homeowners. Often mice, snakes, and toads find their way indoors, and opossums seem to like garages; raccoons can make a mess out of neatly filled garbage cans, and squirrels can quickly empty a bird feeder.

As humans, we need to be careful not to judge what wildlife is valuable and what is not. However, we do need to learn how to discourage some animals from visiting and to learn to live with a little diversity — as long as it doesn’t become destructive. If you want to discourage squirrels and opossums, consider bird feeders that have ways to keep squirrels out, or a seed that doesn’t produce much waste that would draw opossums.

The best way to encourage wildlife to visit your yard is to provide food,

Leader Notes
Review Level I lessons Can’t Do Without It and Habitat Observation Walk.

Review the basic needs in a habitat. Tell everyone to imagine their backyard. Ask them what animals are in their backyards. Then ask why they see those animals. Some members may already have feeders or bird baths in their yards.

Ask the youth what they would need to put in their yard to make it more desirable for wildlife. Discuss food, water, and shelter. What if they attracted wildlife that they did not desire? How and why do we judge what wildlife is good and what wildlife is bad?

In this activity your group members will get the idea of creating a better backyard habitat without having to find a yard to do it in. When doing this activity remind them of natural factors — wind direction during summer and winter, shade, full sun areas, etc. If you want, you may tell them that you are or are not in a neighborhood that has certain restrictions.

Divide the youth into groups of three. Pass out Activity Sheet #6, Building A Backyard Habitat. Explain to the group that this is their house in a new neighborhood on the edge of town. Tell them that before the houses were built, wildlife was living there.

Pass out the magazines, scissors, and glue. Remind them of food, water, and shelter. Tell them that they are going to landscape their backyard for wildlife.

Everything they need is in the magazines — shrubs, trees, bird baths, etc. But, tell them they must keep safety in mind — no big overhanging branches above the roof of the house or car, keep food sources away from the house, etc.
water, and shelter. Food can be as simple as putting out birdseed, corn, or fruit. In the summer, wildflowers, fruit-bearing trees, and even grasses are good sources of food. A water source like a birdbath or a saucer from under a plant pot works well. In the winter, this will have to be changed frequently or a heating device may need to be added.

Shelter is the most complicated part of habitat improvement. What birds and other small mammals need is cover. This usually comes from shrubs, trees, or native grasses. Often these plants are already found in well-established neighborhoods, but newer housing developments typically have very little existing landscaping. Purchasing tree and shrubs may be cost prohibitive, but the Kansas Forest Service is a good resource (see Reference List). They can provide seedlings for very little cost, however, it will take time for your seedlings to grow up into good habitat. Brush piles are another way to create cover, but since they can be unsightly, check with your neighborhood and make sure there is nothing against having them.
Dialogue For Critical Thinking

Share
1. What was the most difficult item to include in your backyard habitat? Why?
2. What type of wildlife do you want to attract to your backyard? Why?

Process
3. How do you determine the value of your wildlife habitat?
4. What do you plan to do to prevent nuisance wildlife?

Generalize
5. What can you do to improve habitat for wildlife?
6. How will you cope with unwanted visitors to your backyard habitat?

Apply
7. What will you do different the next time you plant a habitat? Why?
8. What will the habitat be like in ten years? How will its value change?

Going Further
The Kansas Department of Wildlife and Parks has a program called the Backyard Wildlife Habitat Improvement Program. If your students have the desire to continue your project, consider this program. The area that you modify can be “certified” and you will receive a sign to display in the habitat that has been improved.

References
Backyard Wildlife Habitat Improvement Program brochure from Kansas Department of Wildlife and Parks (KDWP), 512 SE 25th Ave., Pratt KS 67124-8174
Refuge in the City brochure from KDWP
Kansas Forest Service (785) 532-3300 (www.KANSASFORESTS.org)
Songbirds in Your Garden, Terres (1994)

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Reviewed by
Wildlife Review Team
Below is the outline of a house, garage, sidewalks, driveway, and patio. Create a backyard habitat.
An Upside-down Hike

Outdoor Skills

What Members Will Learn...

About The Project

- Wildlife and habitats occur in unexpected and overlooked places
- Animals reactions when their habitat is disturbed
- Importance of returning habitat to its original arrangement

About Themselves

- Their observation abilities
- Patience and self-confidence when dealing with the unknown

Materials

- Activity Sheet # 7, Critter Observations
- Pencils
- Clipboards
- Insect, reptile, and amphibian field guides

Activity Time Needed: 60 minutes

Activity

Where there is habitat, animals are often present. These animals include the invertebrates (without backs or spines).

Many critters use the undersides of natural and unnatural items for shelter and protection. During the warm months of the year, these places stay moist and cool. Because insects, reptiles, and amphibians are all cold-blooded, they need these cool, sheltered places to regulate their body temperature. Getting out of the heat is the only way to cool their bodies off.

Leader Notes

By now, the youth have learned that habitat is everywhere (especially if they have already completed A Special Home).

This activity will expose youth to insects, worms, and spiders. Depending on the site, you may also see vertebrates such as rodents, snakes, or toads.

You will need to teach the youth the proper way to uncover these critters. If there is rock that they want to lift, have them stand behind it and lift it away from them. In this way, if there is anything that they have startled underneath the rock, it will jump away from them and not right into their face. Stress the importance of returning the rocks or other objects back to their original positions. These items are the animals’ habitats and need to be respected. It is a good idea to have the youth record what they observe, and to have field guides on hand to answer questions.

Review the characteristics of a habitat.

Tell the youth that they are going to observe wildlife, upside-down. Their hike will be all about looking under things to observe wildlife.

While on the hike, record or draw what creatures are found on Activity Sheet # 7, Critter Observations. Use field guides as an identification resource.
Dialogue For Critical Thinking

Share
1. Where did you go to observe critters? Why?
2. How many different kinds of critters did you find?

Process
3. Why are these critters under rocks and other objects?
4. How do these critters affect larger wildlife?

Generalize
5. What must you do to improve your observation skills when looking under objects? Why?
6. How important is patience in this process?

Apply
7. What other activities require patience? Why?

References

Amphibians and Reptiles in Kansas, Joseph Collins (1993)
Insects in Kansas, (S131) Production Services, Kansas State University 24 Umberger Hall, Manhattan, KS 66506-3402
A Key to Amphibians & Reptiles of the Continental United States and Canada, Powell, Collins, and Hooper (1998)
Insects, Zoobooks (Available from Kansas Department of Wildlife and Parks (KDWP) 512 SE 25th Ave. Pratt, KS 67124-8174)
Insects 2, Zoobooks (KDWP)

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Reviewed by
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Record or draw pictures of the animals observed. List the number of each critter you observed and where they were found.
Foxtails and Porcupine Eggs

Outdoor Skills

Wildlife, Level II

What Members Will Learn...

About The Project

• Common shapes of seeds and how they are dispersed
• How external seed features affect their dispersal

About Themselves

• How they disperse seeds in everyday activities

Materials

• Old (or new) large tube socks. They need to be big enough to fit OVER the group members’ shoes.
• One per student

Activity Time Needed: 60 minutes

Activity

Seeds are spread in a variety of ways: wind, carried by animals, carried by water, eaten by animals, and propulsion.

Wind: You are already very familiar with wind-borne seeds. The seeds of a dandelion are carried by a little, wispy parachute. Depending on how strong the wind is determines how far the seed will travel from the mother plant. It is no wonder they pop up all over our yards.

Carried by animals: This seed category typically has some kind of little barbs on the surface of the seed or attached to one end. When a furry animal brushes the plant, seeds get caught up in the animal’s fur. This is the same principle that Velcro works on — something spikey sticking to something soft. The seeds then fall out or are shed with the animal’s fur in the spring — just in time for warm sun and rain. The cocklebur is an example of an animal-carried seed. Sometimes these seeds can be painful — sandburs are known for their irritating spikes. Even grass seeds like three-awn end up in animal fur, people’s socks and shoelaces.

Carried by water: Coconuts are the best known example of water-carried seeds. The coconut falls from the tree and sometimes ends up in the ocean where it floats along the surface. If it is lucky, it might wash up on another island. If conditions are right, a new coconut tree will grow.

Eaten by animals: Cedar trees and mulberry trees are an example of seeds that spread by being eaten. These seeds have special coatings on them that protect them in the digestive system of the animal that eats them. There is a good chance that they will end up far away from the mother plant when the animal excretes them.

Leader Notes

This activity can only be done in late summer, fall, or early winter when the season’s plants have gone to seed. This activity will be most successful if you can do it in an unmowed pasture or prairie.

This category (carried by animals) is the one your group will get involved with.

Discuss the different ways that seeds can be carried from their mother plant. Why do seeds need to be carried away?

Explain to the group that they are going to represent a prairie mammal. What do they think mammals encounter as they walk through a grassland?

Pass out the socks. Ask the students to put them on over their shoes. Take a hike out in the grassland. Point out any patches of seedy plants that you might see. Either at a good resting place or back at your meeting room, have the members remove their sock(s) and examine the variety of seeds they collected. Discuss.
**Propulsion:** There is a native plant called “snow-on-the-mountain” which is related to the poinsettia. When its seeds are mature they pop or explode out of the plant. This motion ensures that the mother plant gets the seeds far enough away so that they will not be competing with her for nutrients, sunlight, and water.

**Dialogue For Critical Thinking**

**Share**

1. Where did you go to collect your seeds? Why?
2. How many different seeds did you collect?

**Process**

3. What shape of seed is most easily caught? Why?
4. What seed features snag to clothing or furry animals easiest? Why?
5. How will the change of seasons affect the seeds found?

**Generalize**

7. What did you learned about yourself during this experience?

**Apply**

8. What will you do differently the next time you walk through the prairie in the fall or winter? Why?

**Going Further**

Have students plant their sock to grow their own wild seeds.

**References**

*Pods: Wildflowers and Weeds in Their Final Beauty*, Jane Embertson (1979)

*Kansas Prairie Wildflowers*, Clenton Owensby (1992)


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Wildlife Review Team
Not In My Habitat: A Plan

Outdoor Skills Wildlife, Level II

What Members Will Learn...

About The Project
• Ways the environment can be made a cleaner place for people and wildlife
• Environmental problems that occur in urban areas or anywhere that people live
• Pollution affects the health and quality of life of both people and wildlife

About Themselves
• The positive and negative impacts they can have on the environment
• Their opinion regarding pollution and waste

Materials
• Activity Sheet # 8, Unnatural Habitat List
• Pencils
• Clip boards

Activity Time Needed: 60 minutes

Activity
Our society has become careless when it comes to litter and pollution. Not only is it unsightly to us, but it may also do physical harm to wildlife. Wildlife does not know the difference between a candy wrapper and the candy itself – they both smell the same. Wildlife will ingest this trash and eventually starve because its body cannot process the pollution. Often used gum gets tangled in the hair of small animals. Plastic six-pack rings and monofilament fishing line tangles up bird and aquatic creatures.

Leader Notes
This activity does require that you go outside of your meeting room. It may be appropriate to use the grounds that surround your meeting place, or you may need to adopt a park, drainage creek area, or another area.

This activity is designed to practice observation and problem-solving skills. The youth will be observing what is unnatural in their chosen environment. Afterwards, they will brainstorm on how this problem can be remedied. Be realistic! They will need to agree on one or two plans of attack because in Not In My Habitat: A Project, they will take their idea and turn it into a service project.

Explain to the youth that their environment is filled with natural and unnatural things. Ask them to name some unnatural items – that belong in their environment (example the items we use and take care of – cars, buildings, playground equipment). What unnatural items do not belong? (litter)

Pass out Activity Sheet # 8, Unnatural Habitat List, clipboards, and pencils. Tell the youth that they will observe and write down all the unnatural items that don’t belong.

After you return to the meeting room, separate the youth into three or four groups. As groups, have them decide how they can solve the problem that they have observed. It is up to them whether they discuss a short-term solution or a long-term solution – do not lead them either way. Allow them 10 minutes to do this.

Have each group briefly present their solution to the rest of the class. After all the presentations are complete, discuss their ideas. Which solution would be short term?

Finally, ask the youth which solution would they be capable of carrying out? If you are following this activity with Not In My Habitat: A Project, tell the youth to be prepared to implement their plan. This
may mean appropriate clothing, gloves, garbage sacks, or whatever else their plan calls for.

Dialogue For Critical Thinking

Share
1. Where did you look for unnatural things? Why?
2. How many unnatural things did you find?
3. What was the most unusual item found?

Process
4. What items were polluting the habitat? Why?
5. What items were unnatural, but not pollutants? Why?

Generalize
6. Why are there usually multiple answers to each problem?
7. How do you decide the best solution to a problem?

Apply
8. Who can usually accomplish a short-term solution to a problem? Why?
9. What does it take to permanently solve most problems?

References

50 Simple Things You Can Do To Save The Earth, The Earth Works Group (1989)

Authors
Libby Albers, Naturalist
James P. Adams, Associate Professor, 4-H Youth Development, K-State Research and Extension

Reviewed by
Wildlife Review Team
List what unnatural things you observe on your walk. Remember only to list items that do not belong where they are.

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Kansas 4-H Wildlife Notebook
Not In My Habitat: A Project

Outdoor Skills

What Members Will Learn . . .

About The Project

• Ways the environment can be made a cleaner place for people and wildlife
• Environmental problems that occur anywhere that people live
• Pollution affects the health and quality of life of both people and wildlife

About Themselves

• All problems, no matter how large they seem, have a solution
• They can make an impact in the community

Materials

• Trash bags
• Gloves
• Other materials that your group needs, based on their previously discussed plans

Activity Time Needed: 60 minutes

Activity

This activity is designed to empower the participants. By taking observations and discussing the problem first, and then formulating their own plan, this project has a sense of ownership for them. You will need to be prepared for the safety of your group members. They may be around a water source, handling sharp objects, or heavy objects. Tell them if there is anything too large or that they are uncomfortable touching, to call on one of the leaders.

Leader Notes

Not In My Habitat: A Plan, must be done first to lay the groundwork for this activity. This activity does require that you go outside of your meeting room. It may be appropriate to use the grounds that surround your meeting place or you may need to adopt a park, drainage creek area, or another area. The youth must take safety precautions when dealing with litter.

Your project may not call for picking up litter. Use common sense in dealing with whatever plan the youth have come up with. If it is a more long-term plan, use this opportunity to contact community representatives that may need to become involved.

Review the plan that your group members have developed. Answer any questions they might have and go over the safety precautions.

Have the youth act on their plan. Dispose of the litter.
Dialogue For Critical Thinking

Share
1. Is your habitat enhancement a short-term or long-term plan?
2. What were the basic steps needed to solve the problem?

Process
3. What problems did you encounter when implementing your plan?
4. What other groups did you get involved in the solution? Why?

Generalize
5. How do you like to solve problems? Why?
6. How did you feel about your accomplishments? Why?

Apply
7. What other problems would you like to help solve? Why?
8. What will you do differently next time when solving or working on a community issue?

Going Further
Visit with local government or civic groups to see what issues you can help with.

References
*50 Simple Things You Can Do To Save the Earth*, The Earth Works Group (1989)

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