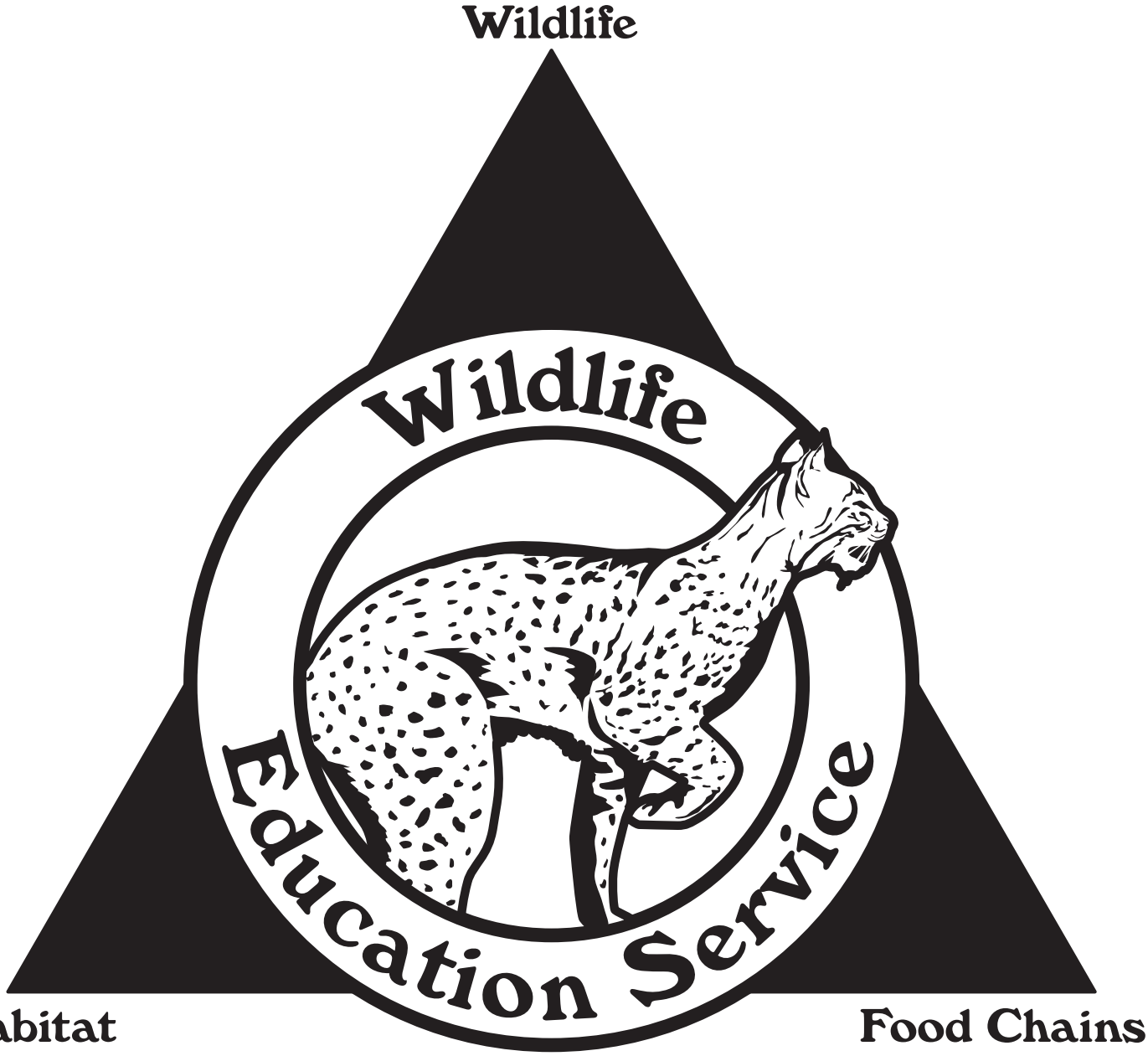
Teachers Guide



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Beginning Primary

Reprinted 08/06

Teacher's Guide

Beginning Primary

This educational resource was originally developed and written by **Joyce Harmon Depenbusch** and designed and illustrated by **Alan W. Baccarrella**.

The revision and updating were provided by: ***Mary Kay Crall***, ***Alaine Neelly***, ***Pat Silovsky*** and ***Roland Stein***.

Illustration and layout by: ***Dustin Teasley*** and ***Stacy Miller***

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Resource section by: ***Erica Nighswonger***

The educational material is dedicated to the children of Kansas. May they develop an awareness and appreciation for Kansas' wildlife.

Funded by hunting and fishing license fees and the Nongame Wildlife Tax Check-Off Program.

Kansas Dept. of Wildlife and Parks
512 SE 25th Avenue
Pratt, Kansas 67124-8174

Foreword

Dear Educator,

As Kansans, we have been blessed with an environment capable of providing us with the natural resources to enjoy life to its fullest. Our wildlife is one such resource enjoyed by many Kansans. The future of this resource and others will directly depend on an enlightened citizenry which understands and appreciates the practices and commitment needed to insure the quality of these natural resources.

We believe one can nurture within children an environmentally sound attitude. The combination of children's spontaneous interest for living things, our informative materials and resources, and your expertise in teaching and motivating children will assist us in this objective. You, as the instructional leader, are the catalyst; without your commitment the other two remain dormant. We need to care about our young people, their future, and the future of Kansas' natural resources. "Children who care about our earth today can change the world tomorrow."

As part of our commitment to assist educators, the Kansas Department of Wildlife and Parks created the Wildlife Education Service section in 1981. The WES, with its comprehensive resources, is dedicated to instilling an awareness, understanding and appreciation in Kansas' youth of our natural resources, especially wildlife. Together we will make a difference. Assist us by making your fellow teachers aware of what WES has to offer.

Feel free to direct any concerns or questions regarding WES to the Pratt Operational Headquarters. We look forward to working with you and wish you and your students a successful learning experience.

Sincerely,
The WES Staff
Kansas Dept. of Wildlife and Parks
512 S.E. 25th Avenue
Pratt, Kansas 67124
(620) 672-5911
ShelbyS@wp.state.ks.us

"Never doubt that a small group of thoughtful committed individuals can change the world; indeed, it's the only thing that ever has."
Margaret Mead

Introduction

This wildlife education resource was developed to assist educators in establishing a greater awareness and appreciation in children for their natural environment and Kansas' wildlife. Everyone, especially our children, needs to become more knowledgeable and aware of their bio-physical and cultural environment. We need to increase our sensitivity and understanding of how our behavior and actions affect the ability of our natural environment to maintain and enhance the quality of all life forms.

The materials and resources provided will spark the natural attraction and spontaneous interest children have for wildlife. You, as the instructional leader and motivator, provide the most important component in the nurturing of students to become environmentally enlightened individuals with a caring attitude for all living things. One need not be a wildlife expert to teach children about their environment and wildlife. The most important ingredient for successful presentations will be your enthusiasm and imagination.

These instructional materials are multi-disciplinary, flexible, and will enrich all aspects of your on-going curriculum with minimal preparation or equipment. But, to be effective, the activities and information must become an integrated part of your on-going instruction. The material is appropriate for use throughout Kansas. We encourage you to utilize the out-of-doors as a learning site whenever possible. When outdoors, remind your students they are company in the homes of wildlife and their behavior should reflect it. Technical assistance and resources can be obtained from the Wildlife Education Service Section of the Kansas Department of Wildlife and Parks through the following materials and services.

The Reference Center in Pratt has over 4,000 resources on wildlife and related topics in a variety of formats. Nature's Notebook, a collection of education features from the Kansas Wildlife and Parks magazine, provides educators with a wide variety of wildlife information sheets, hands-on activities and support materials. The On T.R.A.C.K.S newsletter provides information and resources to assist educators in developing a basic understanding and appreciation of ecology in children. Project WILD, Project Aquatic and Project Learning Tree, nationally acclaimed environmental education programs, emphasize basic concepts about our natural resources, wildlife, water and our forests. The learning experiences in their activity guides provide an interdisciplinary, hands-on program for pre-schools to adults. They are also a simple way for educators to gain confidence in using the out-of-doors as an effective learning setting.

Mission: We have a go!

The Curriculum Standards for Science, issued in 2000 by the Kansas State Board of Education, was used to define the desired student outcome for this resource. The general mission statement of the above document indicates the need for students to be prepared decision makers. To develop this skill, students need to become adept at acquiring new knowledge while developing a better understanding and awareness of the technology, economics, and social applications associated with the many problems they will confront throughout their lives.

The enclosed activities emphasize a group-setting approach in encouraging students to become skillful thinkers and problem-solvers. Other components such as curiosity, creativity, perseverance, and flexibility - important in the inquiry and problem solving process- are also fostered in this guide.

The inquiry areas included within this resource are: What Is Wildlife, Introduction to Habitat, and Food Chains and Webs. These areas are connected to one another by using the following themes as organizers: Models, Systems and Interactions, Energy (Matter) Flow and Exchange, and Patterns of Change.

The first area of inquiry, 'What Is Wildlife', encourages students to gather information through direct observation to create a model to identify wildlife and become aware of its diversity.

The second area of inquiry, 'Introduction to Habitat', expands the model to include how wildlife operates within a system (habitat) and interacts with the habitat to obtain their basic requirements -food, water, shelter, and space- needed by all living things.

The last area of inquiry, 'Food Chains and Webs', explores how energy -food/matter- flows within the habitat system through the interactions -predator and prey- of wildlife with the system.

The theme 'Pattern of Change' occurs throughout all three areas of inquiry. Differences in the shape, size, color, and living-patterns of the various forms of wildlife help us to identify wildlife and recognize their diversity.

While studying habitats, it soon becomes apparent there is no one set pattern by which an animal's habitat provides food, water, shelter, and space. These components will vary to best suit the appropriate needs of the individual organism. In 'Food Chains and Webs', the individual organisms can vary considerably, but the basic pattern of energy- transfer in all food chains is the same: producer, plant-eater, meat-eater.

The theme organizers utilized in this guide are similar to those used in the Kansas State Board of Education Curriculum Standards for Science. We have also tried to link the guide's format and objectives closely to those stated in the Curriculum Standards for Science. We do wish to stress the materials and activities are not just science oriented, but can be integrated into a variety of subjects in an on-going curriculum.

The Kansas Department of Wildlife and Parks realizes the environmental issues and decisions which the young people of today will face requires a well informed public. It will be up to the education community to achieve environmental literacy; a combination of factual knowledge with a motivating concern resulting in the tendency to take some form of action to resolve the problem.

Your role as an educator is a vital link in achieving this goal.

Primary Resources

KANSAS ORGANIZATIONS

Agriculture in the Classroom
Kansas State University
124 Bluemont Hall
Manhattan, KS 66506
(785) 532-7946

Audubon of Kansas
813 Juniper Dr.
Manhattan, KS 66502-3180
(785) 537-4385

Blue River Watershed Assoc.
10312 W 49th Place
Shawne, KS 66203-1618
(913) 288-3500

Botanica - The Wichita Gardens
701 N Amidon
Wichita, KS 67202
(316) 264-0448

Brit Spaugh Zoo
P.O. Box 274
Great Bend, KS 67530
(620) 793-4160

Chaplin Nature Center
278124 27th Dr.
Arkansas City, KS 67005
(620) 442-4133

Children's Museum of Wichita
124 S Broadway
Wichita, KS 67202
(316) 267-3844

City of Overland Park
Arboretum & Botanical Gardens
8500 Santa Fe Dr.
Overland Park, KS 66212-2866

Clement Stone Nature Center
7240 W. Tenth ST
Topeka, KS 66615
(785) 273-5806

Dillon Nature Outdoor Ed Center
3002 E. 30th
Hutchinson, KS 67501
(620) 663-7411

Dych Arboretum of the Plains
Hesston College
P.O. Box 3000
Hesston, KS 67062
(620) 327-8127

Emporia Zoo
P.O. BOX 928
South Commercial St.
Emporia, KS 66801
(620) 342-5105

Materials Center
Environmental Ed Curriculum
Education Division
Farrell Library K-State University
Manhattan, KS 66502
(785) 532-6516

Ernie Miller Nature Center
909 N. K-7 Hwy.
Olathe, KS 66061
(913) 764-7759

Flint Hills RC&D Area, Inc.
P.O. Box 260
Strong City, KS 66869
(620) 273-6321

Grassland Heritage Foundation
P.O. Box 394
Shawnee Mission, KS 66201
(913) 262-3506

Great Plains Nature Center
6232 E. 29th St. N
Wichita, KS 67220
(316) 683-5499

Fick Fossil & History Museum
700 W 3rd
Oakley, KS 67748
(785) 672-4839

Kansas Academy of Science
1930 Constant Ave.
Campus WEST
Lawrence, KS 66047
(913) 864-2700

KS Association for Conservation &
Environmental Education
2610 Claflin Rd.
Manhattan, KS 66502
(785) 537-7050

KS Assoc. of Conservation Districts
522 Winn Rd.
Salina, KS 67401
(785) 827-2547

KS Bass Chapter Federation
816 Capitol View Dr.
Topeka, KS 66617
(785) 264-1364

KS Biological Survey
Foley Hall
2101 Constant Ave.
Lawrence, KS 66047-3759
(785) 864-1500

KS Department of Wildlife & Parks
512 SE 25th Ave.
Pratt, KS 67124
(620) 672-5911

KS Geologic Survey Campus WEST
University of Kansas
1930 Constant Ave.
Lawrence, KS 66047-3726
(785) 864-3965

KS Herpetological Society
Museum of Natural History KU
1345 Jayhawk Blvd.
Lawrence, KS 66045
(785) 864-4540

KS Museum of History
6425 SW 6th Ave.
Topeka, KS 66615-1099
(785)-272-8681

KS Ornithological Society
Dept. of Biological Sciences
Fort Hays State University
Hays, KS 67601
(785) 628-4000

KS School Naturalist
Division of Biological Sciences
Emporia State University
Emporia, KS 66801
(620) 343-1200

KS State Conservation Commission
109 SW Ninth St. Suite 500
Topeka, KS 66612-1299
(785) 296-3600

KS State Department of Education
Science, Math, &
Environmental Education
120 SE 10th Ave.
Topeka, KS 66612-1182
(785) 296-3201

KS Department of Health and
Environment LSOB
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
(785) 296-1540

KS State Extension Services
Dept. of Animal Sciences & Industry
K-State University
Animal Damage Control
128 Call Hall
Manhattan, KS 66506
(785) 532-5654

KS State Extension Forestry
K-State University
2610 Claflin Rd.
Manhattan, KS 66502
(785) 537-7050

KS Seirra Club
J Scott Smith
2111 Snowbird Drive
Manhattan, KS 66502-1960

KS Water Office
109 SW Ninth St. Suite 300
Topeka, KS 66612-1249
(785) 887-6057

KS Wetlands and Riparian Area
Alliance
P.O. Box 236
McPherson, KS 67460-0236
(620) 241-6921

KS Wildlife Federation, Inc.
606 Garfield
Sedgwick, KS 67135
(316) 772-5265

Kaw Valley Heritage Alliance
Streamlink
414 E 9th St. Suite B
Lawrence, KS 6604-2629
(785) 840-0700

Kouffman Museum
Bethal College
North Newton, KS 67117
(316) 283-1612

Kirwin National Wildlife Refuge
RT 1 Box 103
Kirwin, KS 67644
(785) 543-6673

Lake Afton Public Observatory
250th St. W & 39th St. S
Wichita, KS
(316) 689-3191 or (316) 794-8995

Lakewood Park Nature Center
Salina Park & Recreation
300 W. Ash
Salina, KS 67401
(785) 826-7335

Lee Richardson Zoo Finnup Park
P.O. Box 499
301 N. Eighth St.
Garden City, KS 67846
(620) 276-1250

Milford Nature Center
3115 Hatchery DR
Junction City, KS 66441-8369
(785) 238-5323

Museum of Natural History
University of Kansas
Jayhawk Blvd.
Lawrence, KS 66045
(785) 864-4540

Nature Conservancy
820 SE Quincy, Suite 301
Topeka, KS 66612
(785) 233-4400

Nature Reach/Science Education
Center Pittsburg State University
Pittsburg, KS 66762
(620) 231-7000

Diane Johnson
Operation Wildlife
23375 Guthrie
Linwood, KS 66052
(785) 542-3625

Pine Ridge Interpretive Center
Pomona Reservoir
RT 1
Vassar, KS 66543
(785) 453-2201

Pheasants Forever
205 S Santa Fe
Salina, KS 67401-3931
(785) 823-0240

PSU Science Education Center
College of Arts & Science
Pittsburg State University
Pittsburg, KS 66762
(620) 235-4292

Pratt Nature Center
512 SE 25th Ave.
Pratt, KS 67124
(620) 672-5911 ext. 176

Project Learning Tree Forestry
Extension Kansas State University
2610 Claflin RD
Manhattan, KS 66502
(785) 537-7050

Project WILD / Aquatic
Kansas Dept. of Wildlife & Parks
512 SE 25th Ave.
Pratt, KS 67124
(620) 672-5911

Quivera National Wildlife Refuge
RT 3 Box 48B
Stafford, KS 67578
(620) 486-2393

Schmidt Museum of Natural History
Emporia State University
1200 Commercial
Emporia, KS 66801
(620) 341-5611

Sedgwick Co. Dept. of Environmental Resources Historic County Courthouse
510 N. Main St.
Wichita, KS 67203
(316) 721-9418

Sedgwick County Zoo
5555 Zoo Blvd.
Wichita, KS 67212
(316) 942-2212 EXT: 213

Soil Conservation Services
P.O. Box 600
Salina ,KS 67401
(785) 823-4500

State Assoc. of KS Watersheds
P.O. Box 182
Newton, KS 67114-0182
(316) 283-0370

Sunflower RC&D Area, Inc.
705 E Main St.
Harper, KS 67058-1725
(620) 896-7378

Sunset Zoological Park
2333 Oak St.
Manhattan, KS 66502
(785) 587-2737

Topeka Zoological Park Zoo Education Program
635 SW Gage Blvd.
Topeka, KS 66606-2066
(785) 272-7595

U.S. Fish & Wildlife Service Kansas Field Office
P.O. Box 128
Hartford, KS 66854
(620) 392-5553

USDA Forest Service Cimarron National Grasslands
P.O. Box 654
Elkhart, KS 67950-0654
(620) 697-4621

Wildcare
P.O. Box 901
Lawrence, KS 66044
(785) 583-9800

Wildwood Outdoor Education Center
7095 W 399th St.
La Cygne, KS 66040
(785) 757-4500

Western Prairie RC&D Area, Inc.
350 S Range Suite 13
Colby, KS 67701-2901
(785) 462-2602

Wolf Creek Environmental Education Area
1550 Oxen Ln. NE
Burlington, KS 66839
(620) 364-4141

National Tallgrass Prairie Preserve
RT 1 Box 14
Strong City, KS 66869
(620) 273-8139

ADDITIONAL RESOURCES

Kids for Saving Earth
620 Mendelssahn Suite 145
Golden Valley, MN 55427
(612) 525-0002

National Audubon Society
950 Third Ave.
New York, NY 10022
(212) 832-3200
(913) 537-4385

Kansas Regional Office National Audubon Society
813 Juniper Dr.
Manhattan, KS 66502

National Park Service Interior BLDG U.S. Department of Interior
P.O. Box 37127
Washington, DC 20240
(202)208-6843

National Wildlife Federation
1400 - 16th St. NW
Washington, DC 20036
800-432-6564

Sierra Club
730 Polk ST
San Fransico, CA 94109
(415) 776-2211

Natural Resourse Conservation Service
760 S Broadway
Salina, KS 67401
(785) 823-4500

The Wildlife Society: Kansas Chapter
(Contact KDWP @ Pratt)

U.S. Fish & Wildlife Service Kansas Field Office
315 Houston Suite E
Manhattan, KS 66502
(785) 539-3474

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What is Wildlife ?

INTRODUCTION AND RESOURCES

A good question to start our discussion. Wildlife covers a wide range of organisms, from microscopic life to the largest living thing, the blue whale. They differ from our domesticated animals, like dogs, cats, horses, and cattle. Wildlife lives in a free condition, acquiring its basic needs, like food, water, and shelter from its surroundings or habitat. In general, if an animal can live and reproduce on its own we consider it wildlife. While it is true all domesticated animals were wild at one time, they have become dependent upon humans for many of their needs. We also maintain domestic animals for a specific purpose, some serve as pets, others as sources of food or domestic goods, such as leather products.

Sometimes it is difficult to distinguish between whether an animal is domestic or wild, like animals in a zoo. Often we must ask ourselves "where would I normally find this animal?" A lion in a zoo setting may appear tame and being cared for by humans, but where would you normally find this animal? Would it be on the plains of Africa where it must hunt for its food and seek shelter under the trees or in brush areas within its habitat? Wherever there is difficulty in distinguishing between domestic and wild animals, encourage the student to think in terms of what is usually the case.

REFERENCE CENTER

Books

BK 3-6	A Child's Book of Birds
BK 3-24	US Bourne First Nature: Birds
BK 4-3	Wild Animals of North America
BK 12-9D	NatureScopes: Birds, Birds, Birds
BK 12-10BI	Eyewitness Jr: Amazing Birds

Computer Software

CD-RO-3-W	Animal Encylopedia

Game Kits

GK-3	Wildlife Lotto
GK-4	Wildlife Concentration
GK-6	Animal Kingdom
GK-7	110 Animals
GK-13	Yotta Know Birds
GK-14	Yotta Know Waterfowl
GK-15	Yotta Know Mammals
GK- 19	Backyard Birds

Filmstrips

FS-41	Alike and Different
FS-43	Amazing Animals

Learning Kits

LK-5	Wildlife in Your World
LK-65	Wildlife Casting
LK-26	Replitracks
LK-153	Birds Fandex Guide
SK	Skins and Skulls

Slide Series

SS-35	Kansas Wildlife Identification
SS-38	Discover Wildlife in Your Backyard

Video Tapes

VT-64	Birds
VT-159	Animals in Action: Baby Birds
VT-294	Kansas Outdoor Wonders
VT-329	Eyewitness: Bird
VT-330	Eyewitness: Fish
VT-338	Eyewitness: Mammal
VT-345	Eyewitness: Amphibian
VT-346	Eyewitness: Reptile

NATURE'S NOTEBOOK

Amphibian & Reptiles
- Information and Activity Sheets A-1 – A-15
- Species Highlighted - Amphibians AA-1 – AA-4
- Species Highlighted - Reptiles AA-5 – AA-15

Birds
- Information and Activity Sheets C-1 – C-34
- Species Highlighted CC-1 – CC-38

Ecological Concepts
- Information and Activity Sheets E-1 – E-12

Fish
- Information and Activity Sheets G-1 – G-14
- Species Highlighted GG-1 – GG-12

General Wildlife
- Information and Activity Sheets I-1 – I-52

Invertebrates
- Information and Activity Sheets J-1 – J-22
- Species Highlighted JJ-1 – JJ-14

Mammals
- Information and Activity Sheets K-1 – K-42
- Species Highlighted KK-1 – KK-13

ON T.R.A.C.K.S. NEWSLETTER

Check each "Species Spotlight" from issue Vol. 2, No. 1 – Vol. 5, No. 2. The following issues are excellent resources on Kansas Wildlife.

The On T.R.A.C.K.S. Newsletter can be obtained for free by contacting the Wildlife Education Services section of the KS Dept of Wildlife & Parks by writing to C/O WES, KDWP 512 SE 25th Ave. Pratt, KS 67124 or phoning (620) 672-5911 or by E-mail at ShelbyS@wp.state.ks.us.

The Prairie . . . . . Vol. 3, No. 3
Birds, Birds, Birds . . . . . .Vol. 4, No. 1
The Twilight Zone . . . . . Vol. 4, No. 2
Is It a Mammal? . . . . . Vol. 5, No. 1
Jurassic Rocks . . . . . Vol. 5, No. 3
Kansas Symbol's . . . . . Vol. 6, No. 2
Life in a Pond . . . . . Vol. 7, No. 2
Bugs, Bugs, Bugs . . . . . Vol. 7, No. 3
Kansas Amphibians & Reptiles . . . . . Vol. 8, No. 1
Kansas Wildlife of the Past . . . . . Vol. 8, No. 2
Fish, Fish, and more Fish . . . . . Vol. 8, No. 3
Jeopardy . . . . . Vol. 9, No. 2
Owls: Masters of the Night . . . . . Vol. 11, No. 1
Deer in Kansas . . . . . Vol. 11, No. 2

PROJECT AQUATIC

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Fashion a Fish	56	88
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PROJECT LEARNING TREE

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PROJECT WILD

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What is Wildlife ?

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▼	8	**Wildlife Cutouts:** A squirrel-go-around.
▼ ■ ●	9	**Animal Scramble:** Match of mix the picture pieces of Kansas wildlife.
■ ●	10	**Mix and Match:** Match the animal and its track to the given "hint".
▼	11-17	**Wildlife Alphabet:** Practice writing the alphabet by printing the names of Kansas animals.
■ ●	18	**Wildlife Riddles:** Can you identify who the riddle is about.
▼	19	**Name the Animal with a Letter:** Use the animals you have seen so far to fill in the blanks.
▼ ■ ●	20	**SHOWCASING- ABC'S Numbers and Wildlife:** Use what you have learned to develop an on-going wildlife investigation study on a bulletin board or at a study center.
▼ ■ ●	21	**Critter Curiosity:** Create a bulletin board showcasing using your various areas of inquire.
■	22-34	**Zany Zoology:** Practice cursive penmanship using the first letter of the names of Kansas wildlife.
▼ ■ ●	35-40	**Wildlife's Rainbow:** Color Kansas wildlife in their natural settings (habitat).
▼ ■	41-44	**Seasons Make A Scene:** Color Kansas wildlife in their seasonal settings (habitat).
■ ●	45-46	**Wildlife in Books:** Report on a book you read about wildlife.
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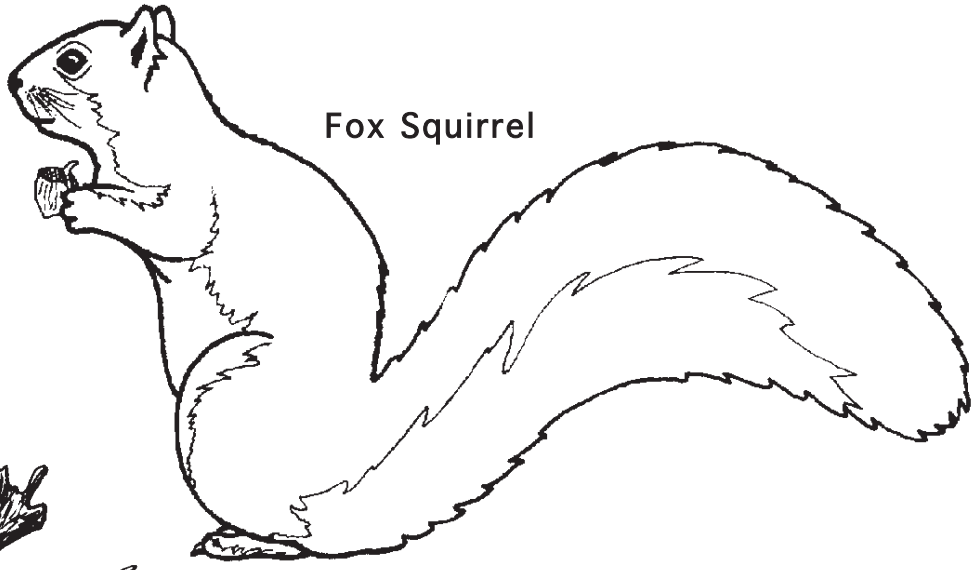
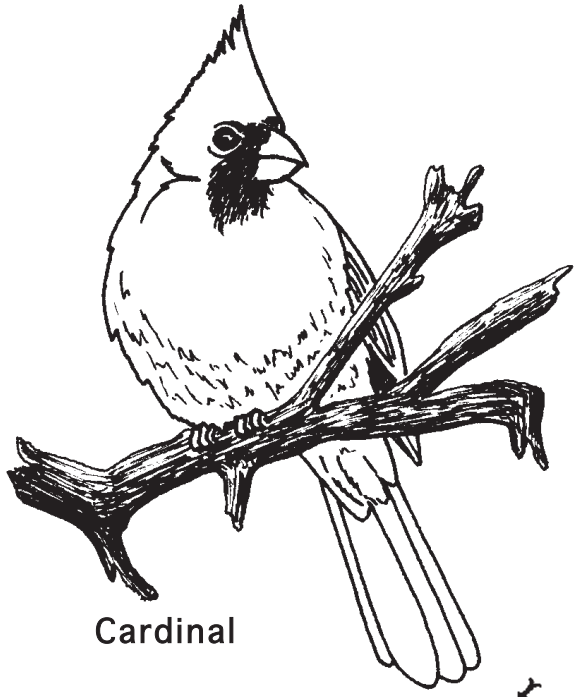
THE WILD RAINBOW

NAME _____

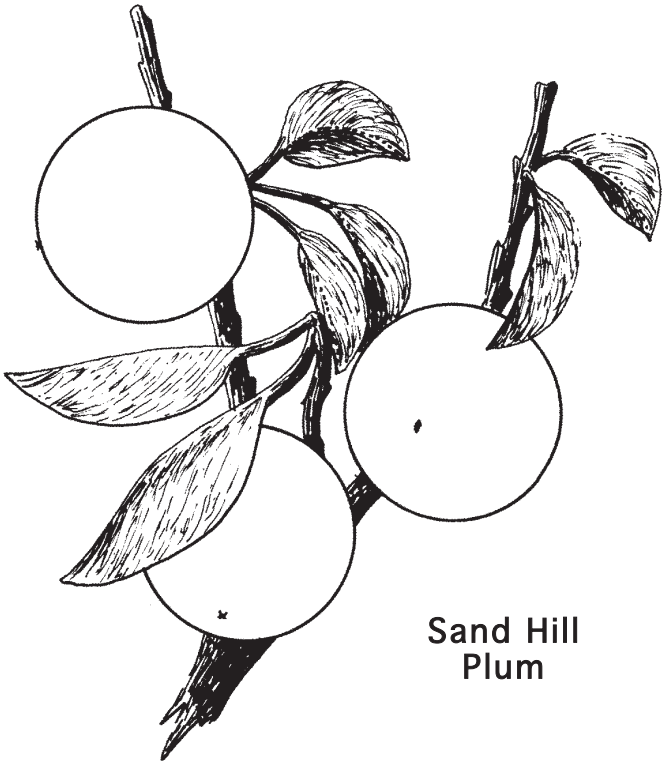
RED



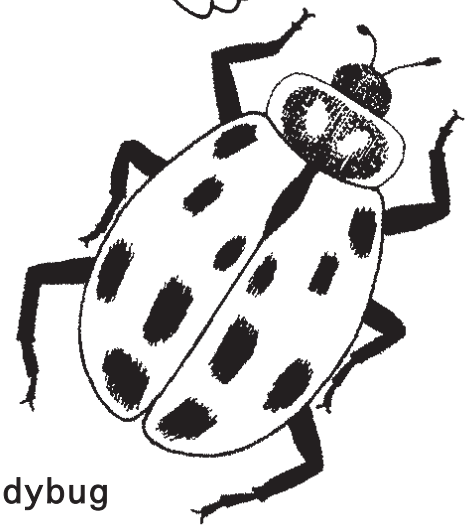
Fox Squirrel



Cardinal



Sand Hill Plum

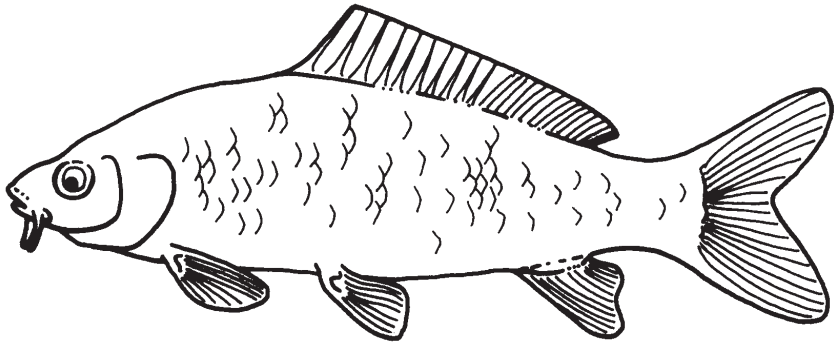


Ladybug

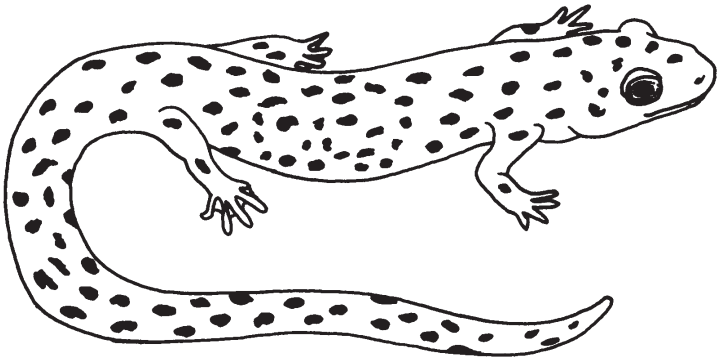
THE WILD RAINBOW ORANGE

NAME _____

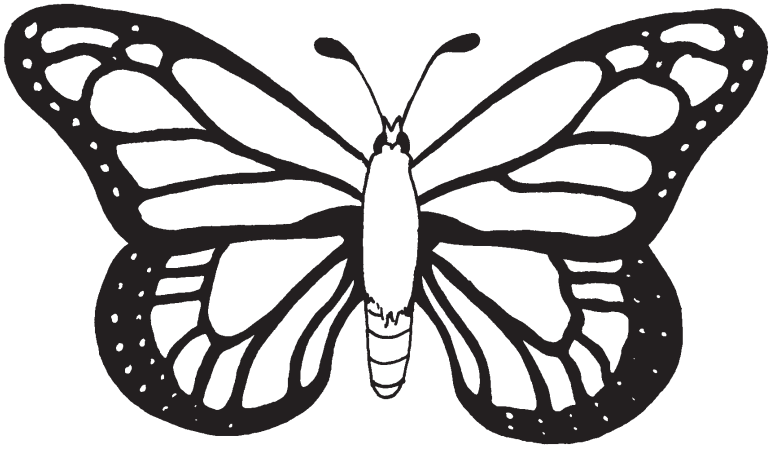
Carp



Cave Salamander



Baltimore Oriole



Monarch Butterfly

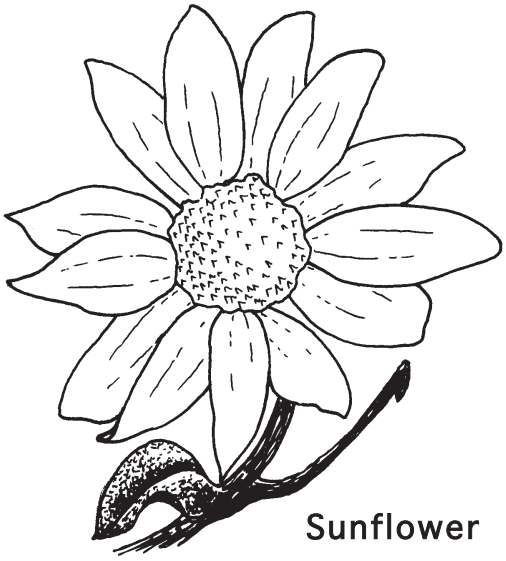
THE WILD RAINBOW

NAME _____

YELLOW

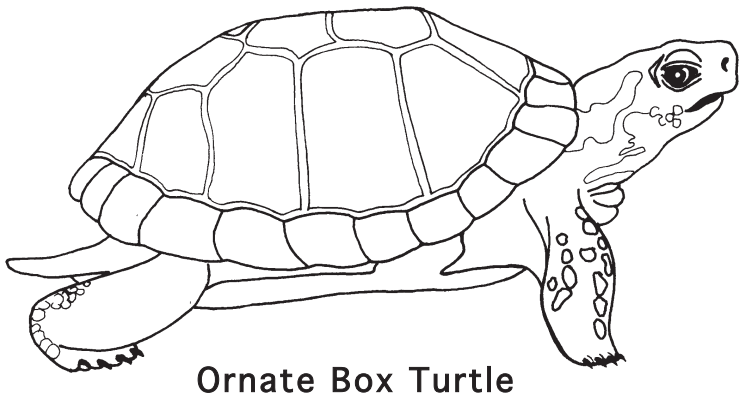
Meadowlark

State Symbol Page



Sunflower

Honey Bee



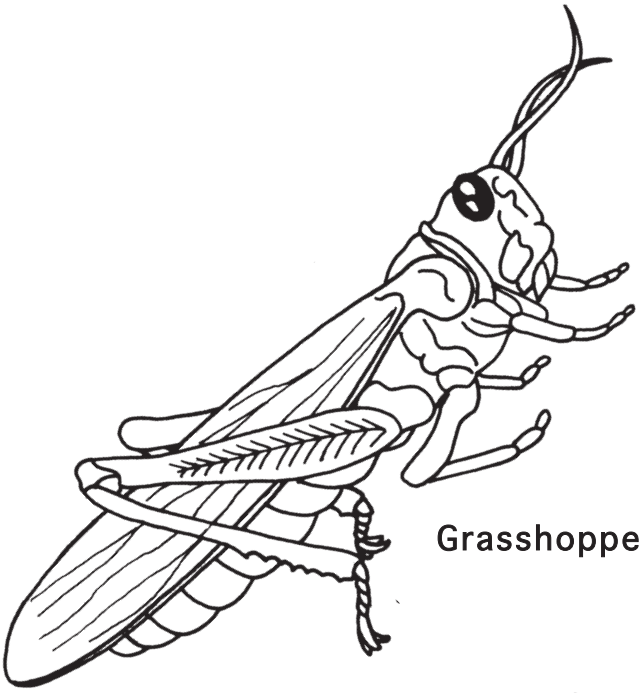
Ornate Box Turtle

Tiger Salamander

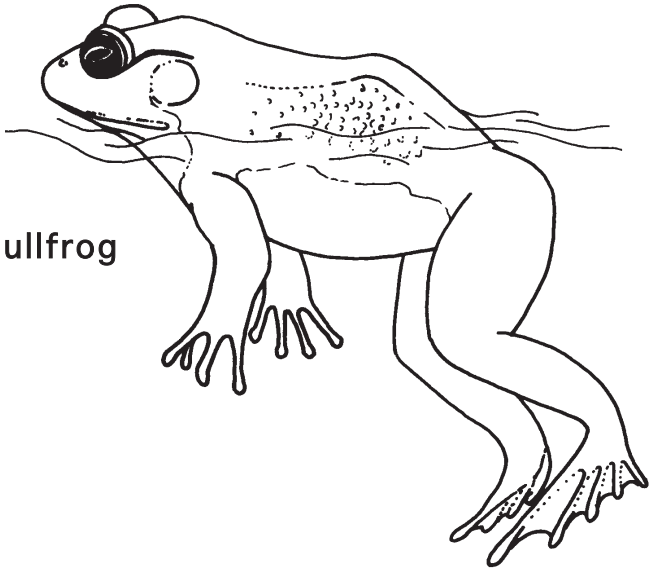
THE WILD RAINBOW

NAME _____

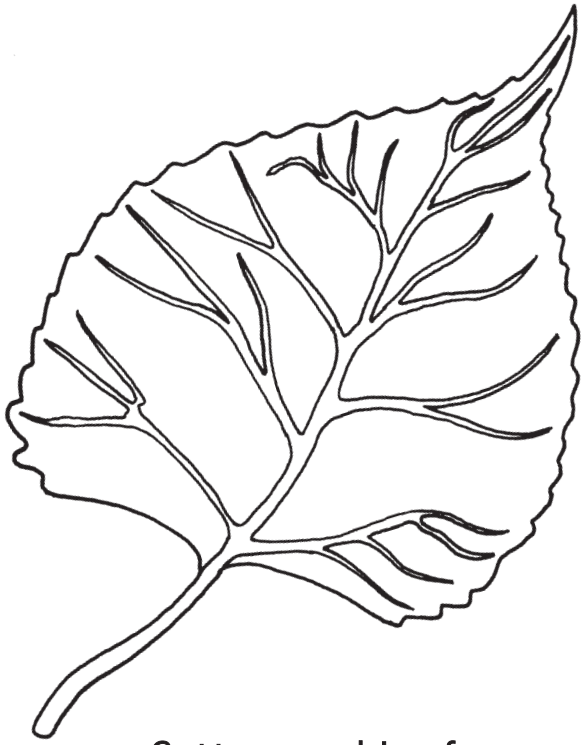
GREEN



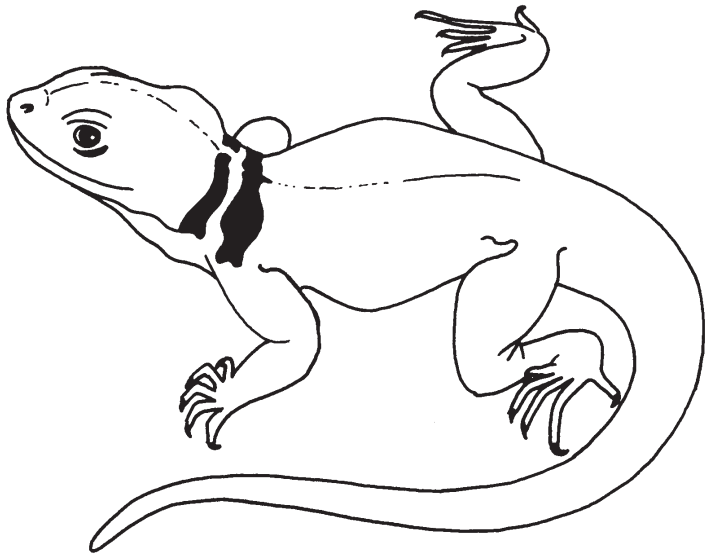
Grasshopper



Bullfrog



Cottonwood Leaf



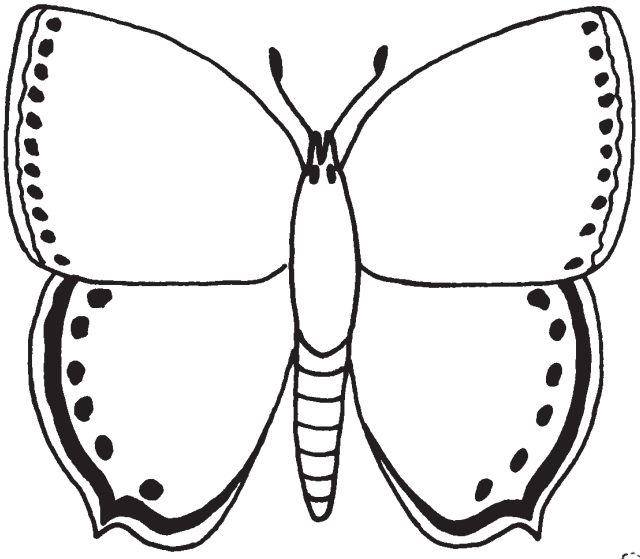
Collared Lizard

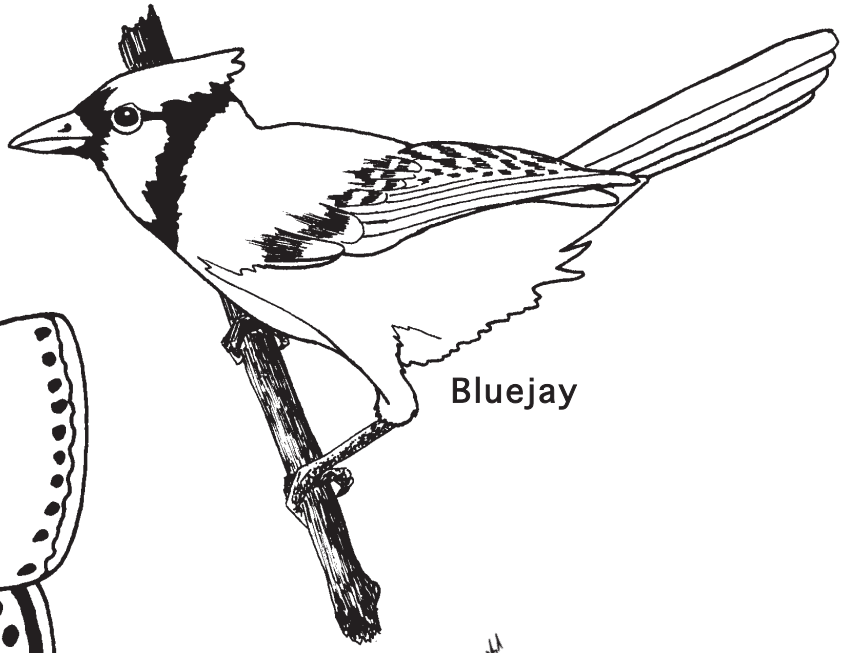
THE WILD RAINBOW

NAME _____

BLUE

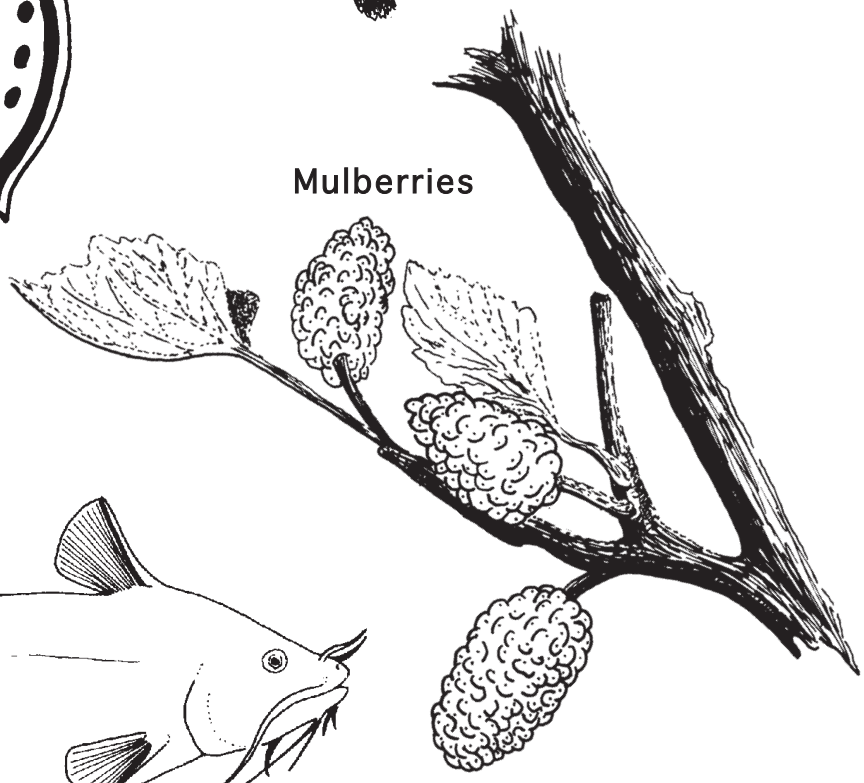
Blue Butterfly

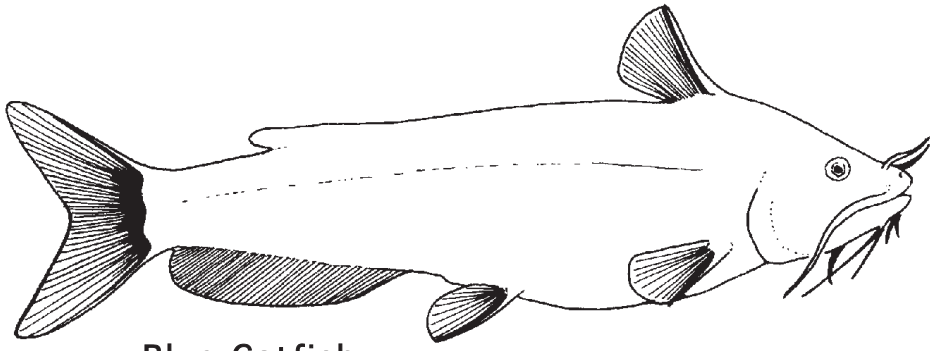




Bluejay

Mulberries



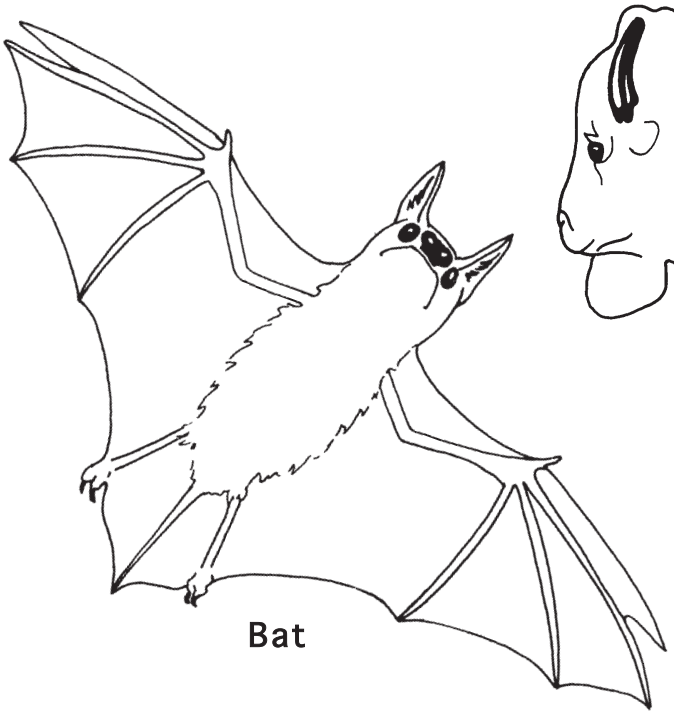


Blue Catfish

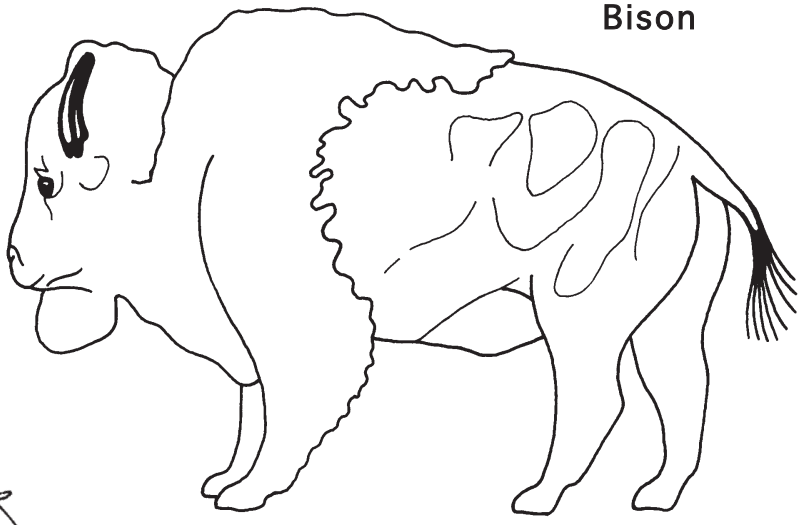
THE WILD RAINBOW

NAME _____

BROWN

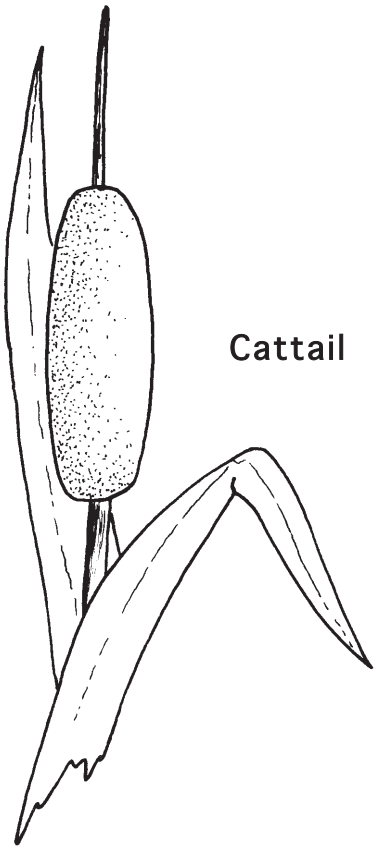


Bat



Bison

Barred Owl

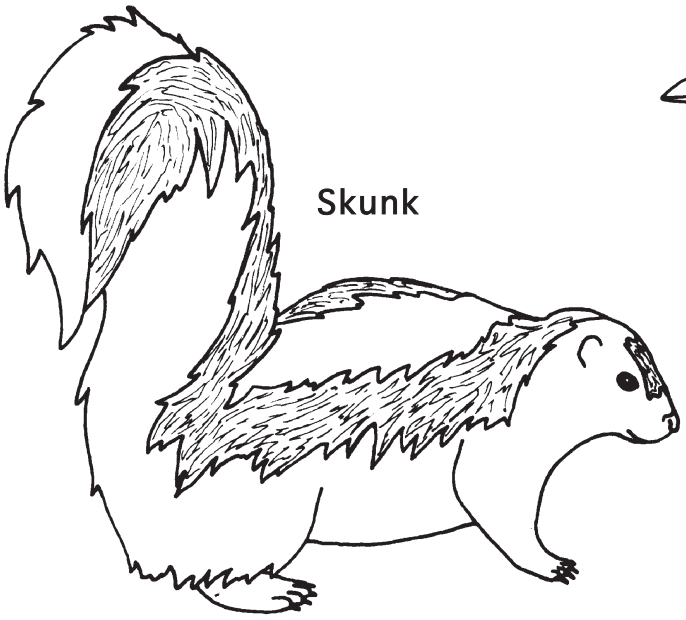


Cattail

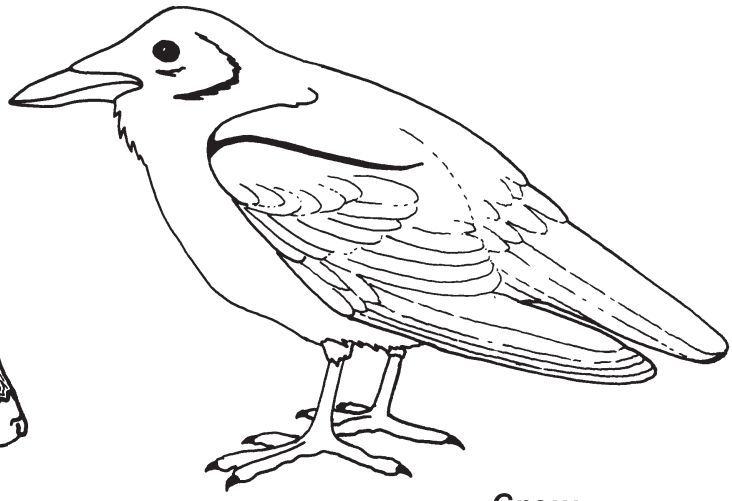
THE WILD RAINBOW

NAME _____

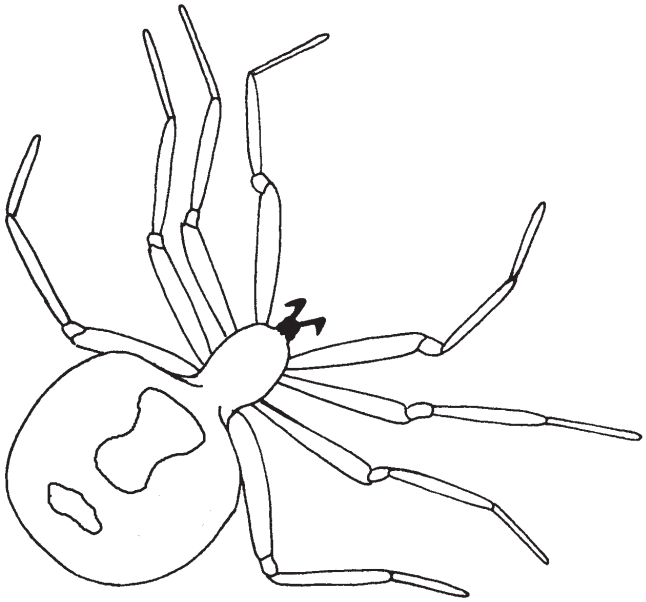
BLACK



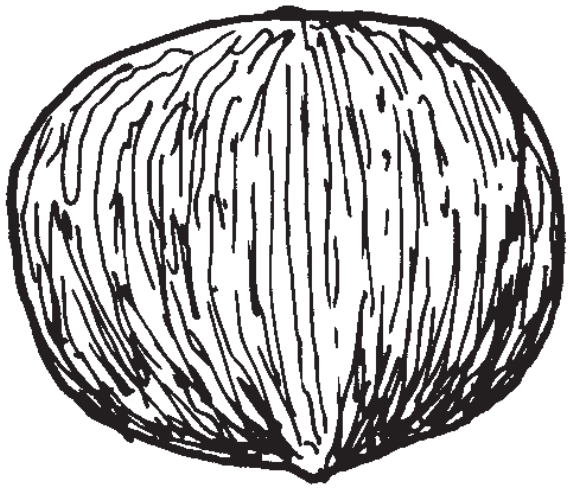
Skunk



Crow



Black Widow Spider

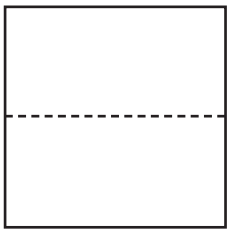


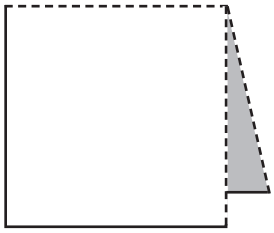
Black Walnut

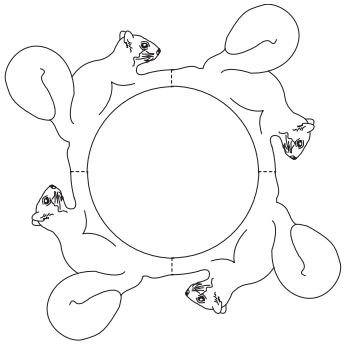
Wildlife Cutout

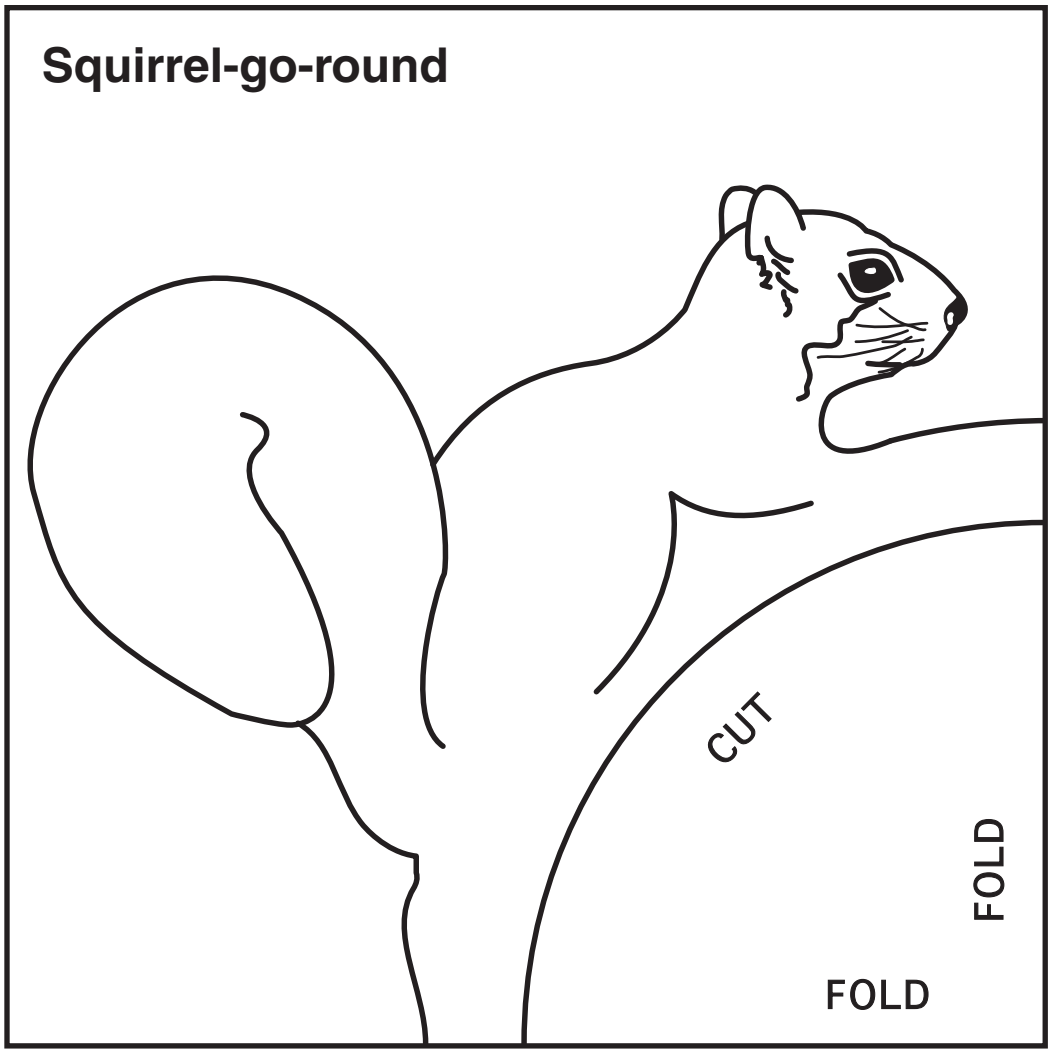
Wildlife paper cutouts makes an excellent art project. Use the pattern below or design your own.

Directions: Fold a square piece of paper in half twice. Draw your animal design; make sure the edges that are to connect are on a fold (in the example it would be the squirrel's front paws and hind feet.). Cut out your pattern; add detail using crayons or colored markers.



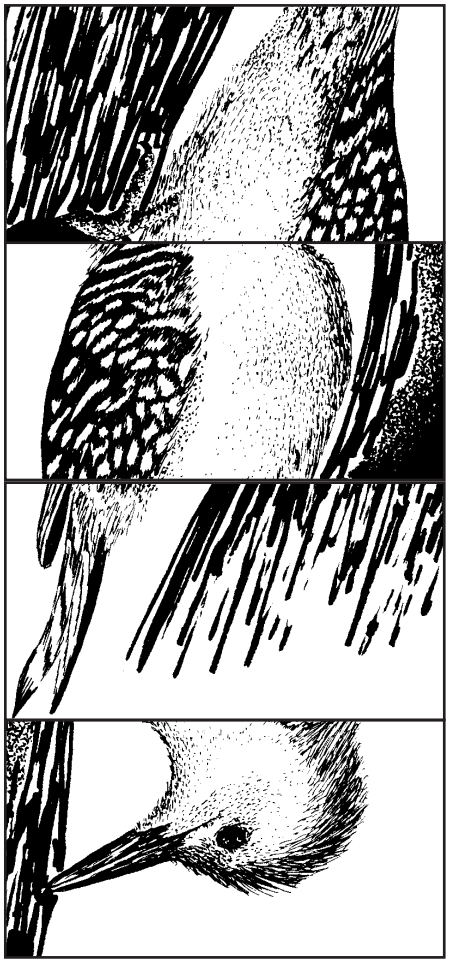


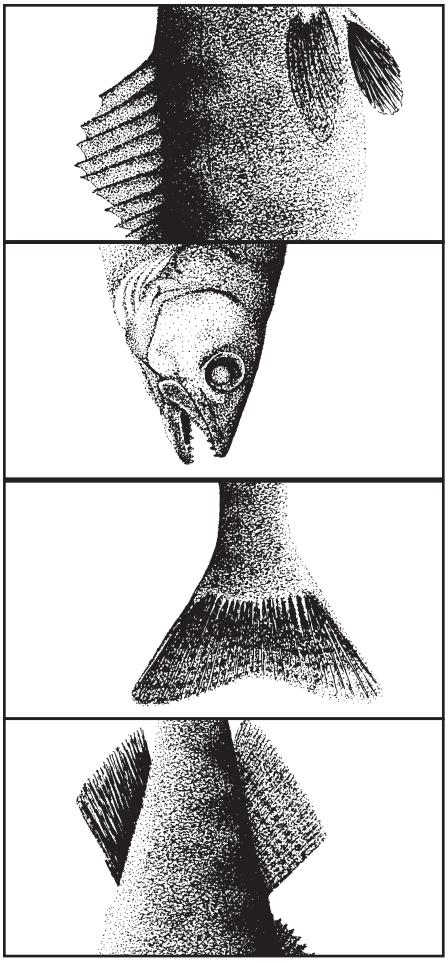


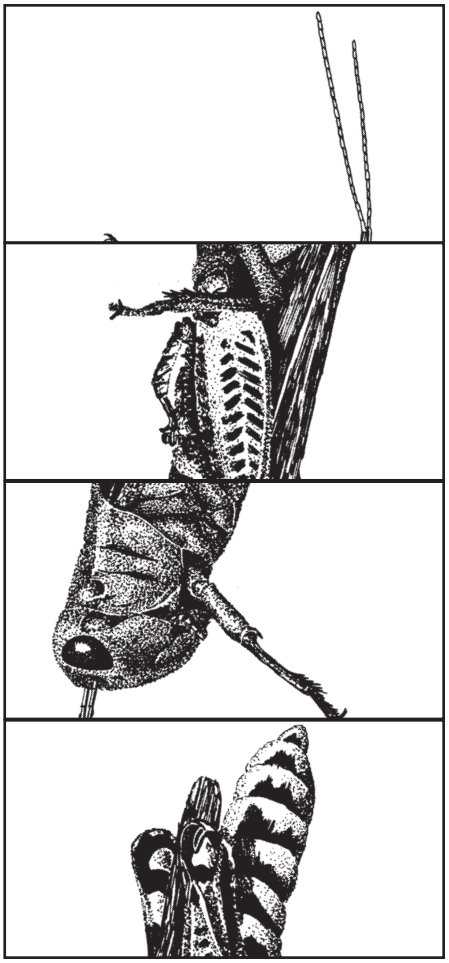


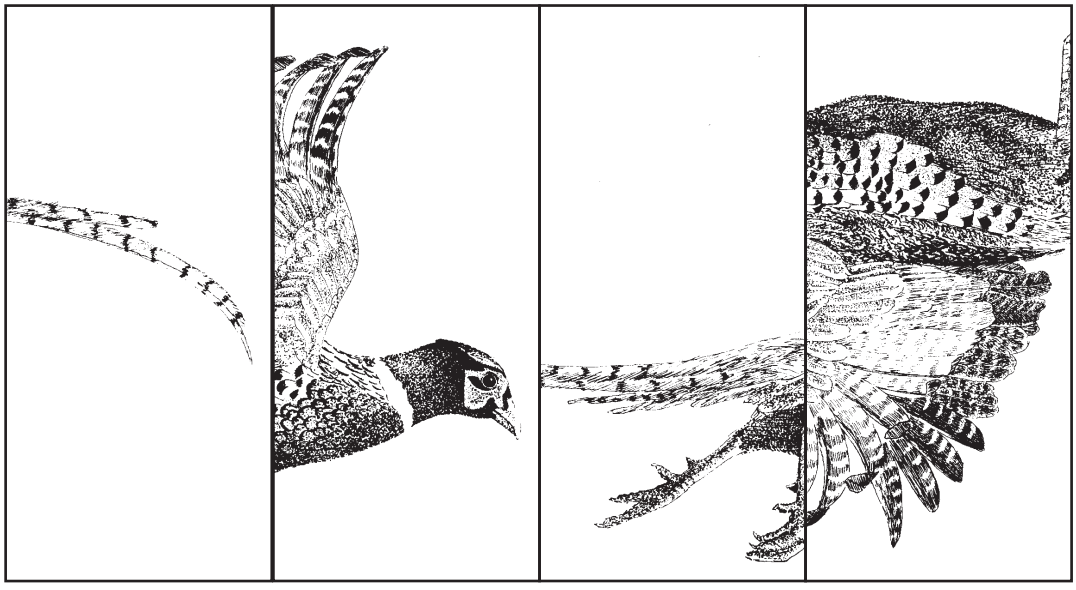
ANIMAL SCRAMBLE

Directions: Build a familiar animal by cutting out the picture pieces.









Mix and Match

NAME _____

Directions: Read the "hints" and match the animal with its track.

The **coyote** track looks like a large dog. — —

Skunks have a large, bushy tail. Their hind paw print look a lot like your foot. — —

Beavers have large front teeth, a broad tail and webbed hind feet to help them swim in water. — —

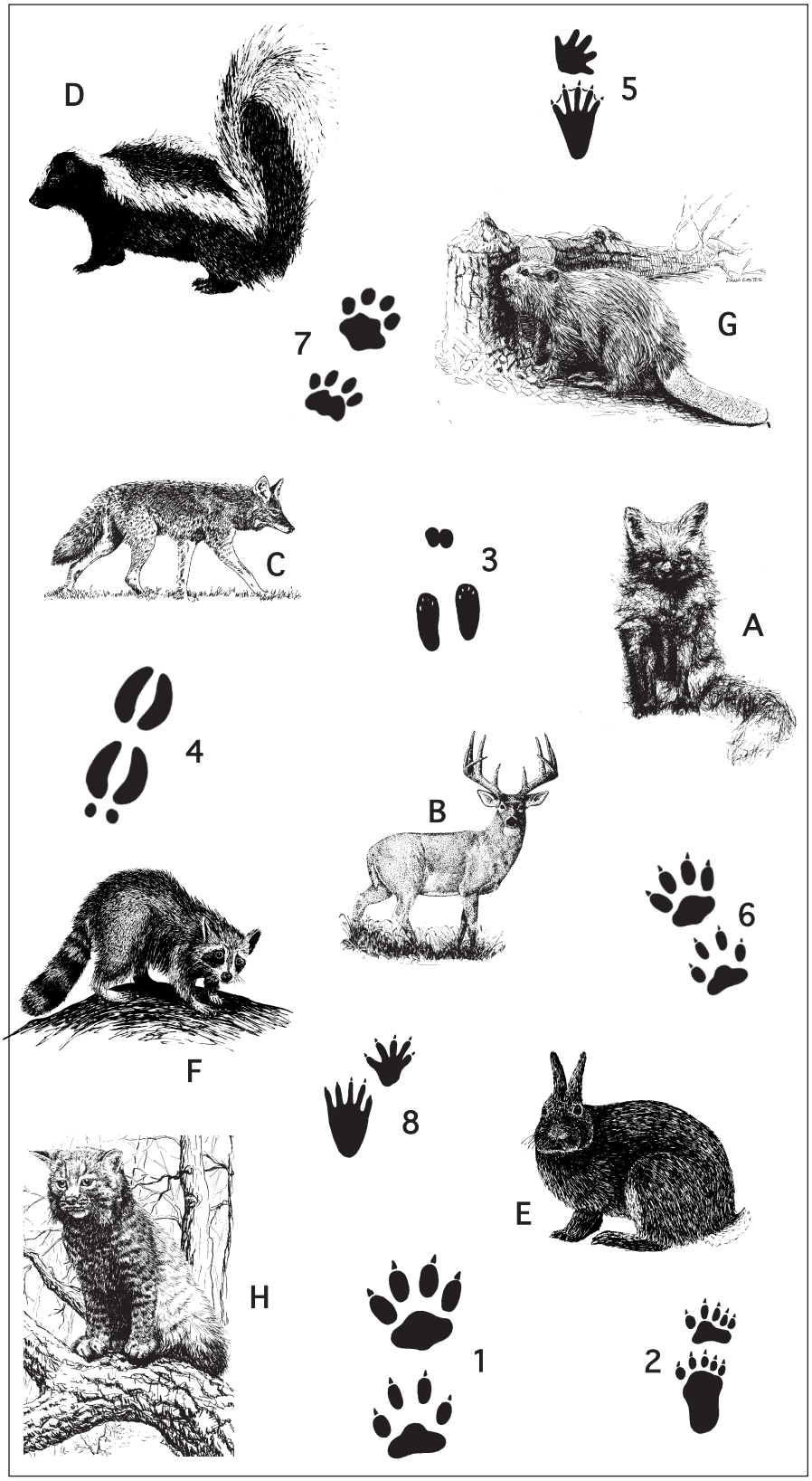
Deer have hooves, not paws, and their track has two toes that looks like bat wings. — —

Foxes are smaller than coyotes and more fur on the paw that leaves a fuzzy small "dog like" track. — —

Rabbits have large hind legs, short front legs and long ears. The track of their hind feet are much bigger than the front. — —

Raccoons have a ringed tail, a black mask around their eyes and tracks that look like your hand print. — —

Bobcats have short tails. Their track only shows the paw pads and no claw marks. — —



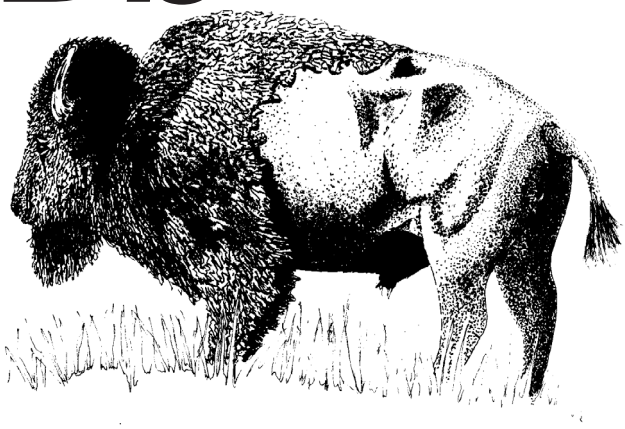
WILDLIFE ALPHABET

NAME _____

Directions: Print/write the first letter in each of the animal's name in upper and lower case. Try writing the animal's complete name.

Aa

Bb



_____

Antelope

_____

_____

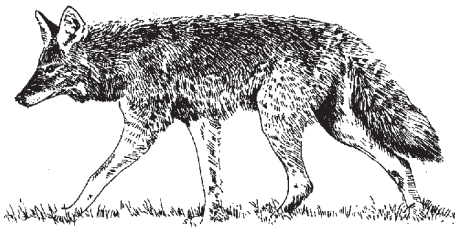
_____

Bison

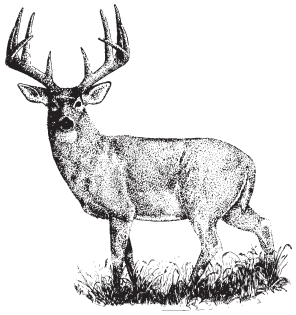
_____

_____

Cc



Dd



Coyote

Deer

Ee

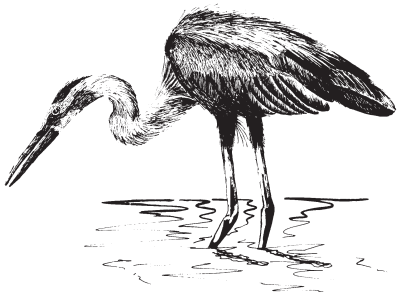
Ff

Eagle

Flycatcher

Gg

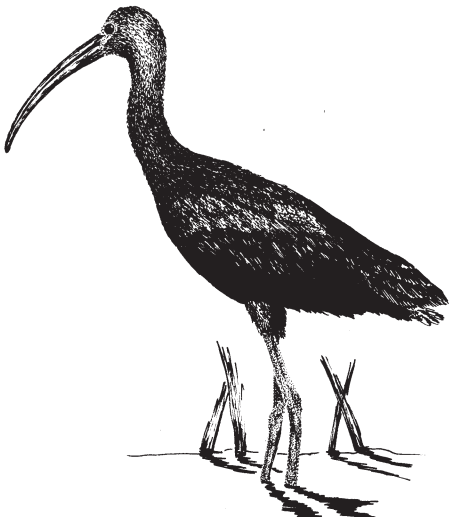
Hh



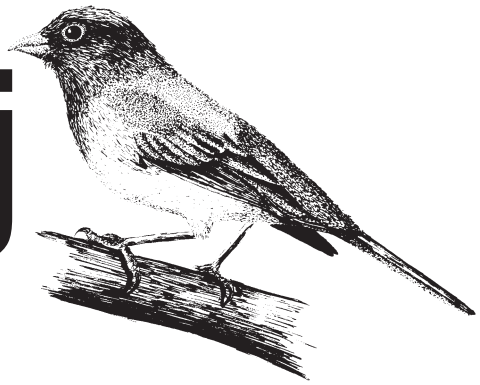
Gopher

Heron

Ii



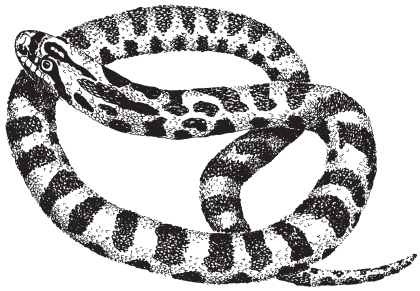
Jj



Ibis

Junco

Kk

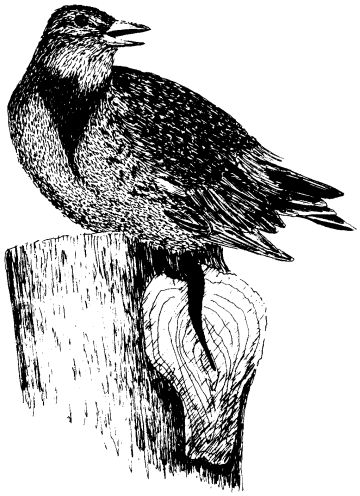


Ll

Kingsnake

Lizard

Mm



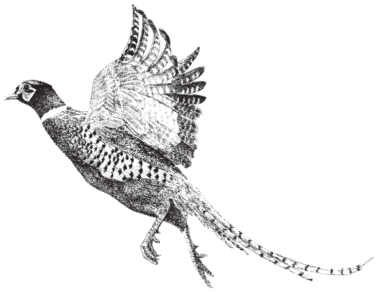
Nn

Meadowlark

Nighthawk

Oo

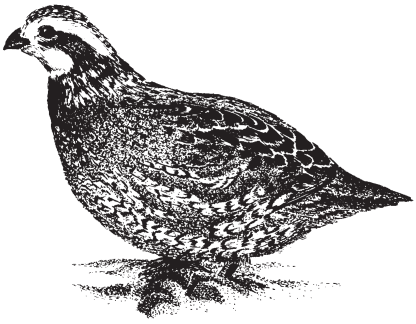
Pp



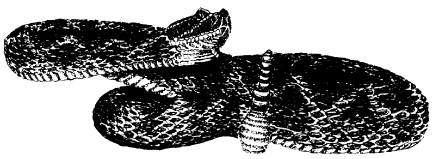
Opossum

Pheasant

Qq



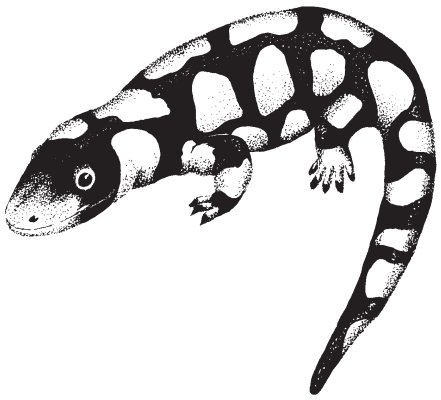
Rr



Quail

Rattlesnake

Ss



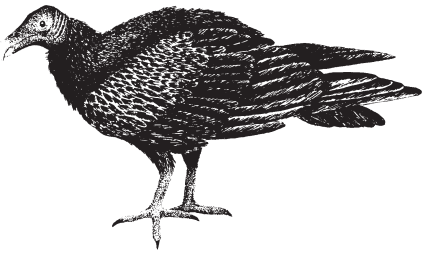
Tt

Salamander

Turkey

Uu

Vv

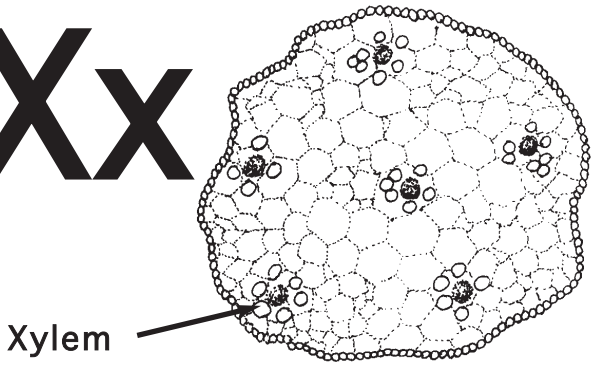


Unicorn
(Beetle)

Vulture

Ww

Xx

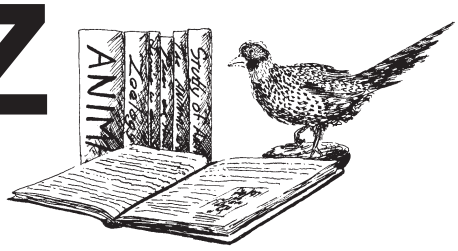


Wapiti

Xylem
(Plant Part)

Yy

Zz



Yellowjacket

Zoology
(The study
of Animals)

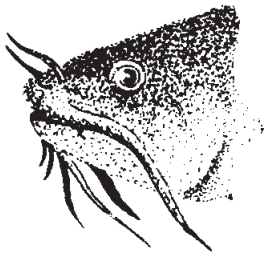
WILDLIFE RIDDLES

NAME _____

Directions: Can you guess what animal these riddles are about? Place your answer in the blank.

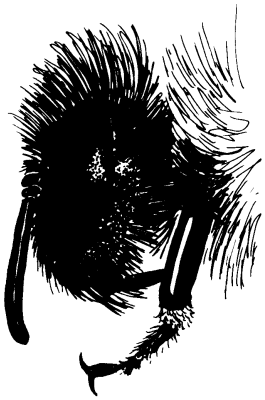
A brown fish with barbels that look like whiskers.
My food (insects, crayfish, and fish) is found by smelling and tasting. I have a very fat head and tiny eyes.
Who am I?

_____



An insect that lives in hives near fields of flowers. My six legs and two pair of wings are used to gather pollen.
Who am I?

_____



I am a large mammal who lives on the prairie. I have horns on my large, shaggy head.
Who am I?

_____

A reptile that moves slowly, carrying my home with me. My upper box-like shell is dark with yellow spots.
Who am I?

_____

I am a mammal found all over Kansas. I look like a large dog that eats mice and rabbits.
Who am I?

_____

An amphibian with a dark body covered with yellow spots.
I have a long tail, short legs, and do not live in the water.
Who am I?

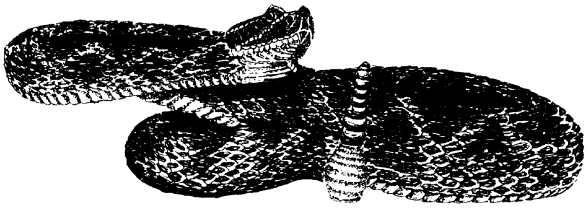
_____

NAME THE ANIMAL WITH A LETTER

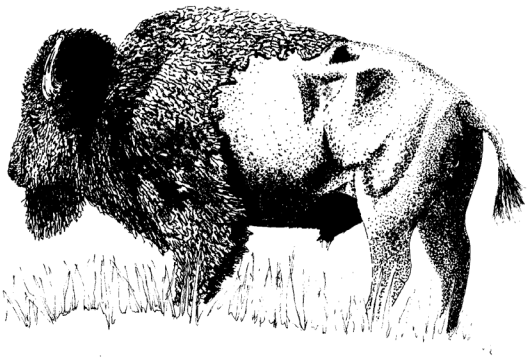
NAME _____

Directions: Locate the animals in your alphabet pages. Place the first letter of the animal's name in the blank.

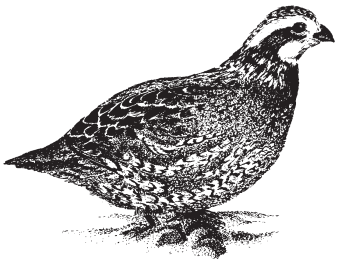
_____



_____



_____



_____

_____

_____

_____

SHOWCASING
ABC'S, NUMBERS AND WILDLIFE

Directions: Combine your studies of numbers, the alphabet and wildlife with a bulletin board featuring Kansas wildlife.

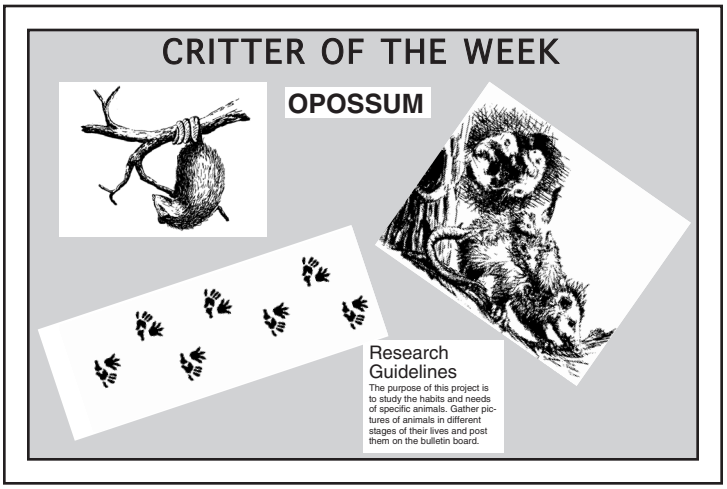
A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z

0 1 2 3 4 5 6 7 8 9

CRITTER CURIOSITY

NAME _____

Directions: Set up an on-going wildlife investigation study on a bulletin board or at a study center. Choose pictures of the animal you wish to study which depict various activities of the animal, such as food gathering, caring for its young and defensive employment. A list of possible areas to research is given below.



What is the animal's name?
(Give scientific name and common name.)

How would the animal be classified?
(mammal, fish, reptile, amphibian, bird, insect, etc.)

In what habitat would this animal live?

Is the animal a herbivore, carnivore, or omnivore?

What does the animal eat?

What shelter (cover) does it need?

Does it hibernate, estivate, or migrate?
(If so, when and where?)

Is it nocturnal or diurnal?

What is the average number of young it has each year?

What is the average life span?

Is its population increasing or decreasing in your location?

Add any other facts you can find that would interest the class.

At the end of a set period of time collect the researched information and discuss the results with the class. Select a new animal or have an interested student make the selection. Encourage the students to make a presentation to other classrooms.

Zany Zoology

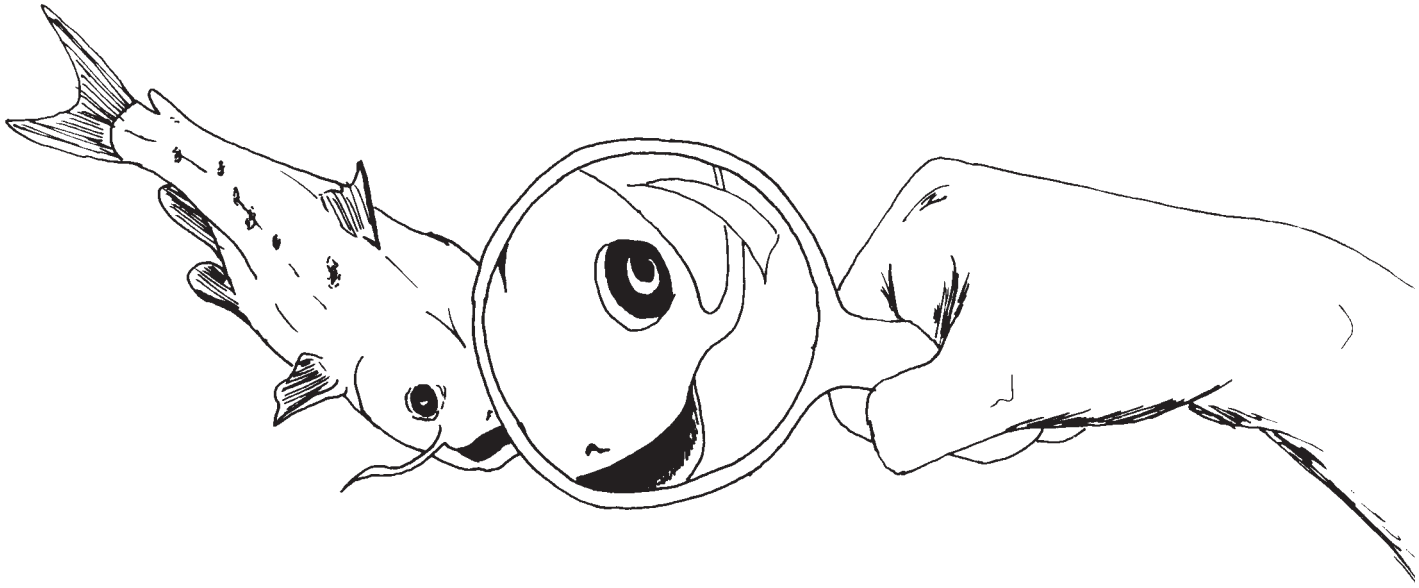
NAME _____

An ancient antelope argued with an active ant around Atwood.

Aa

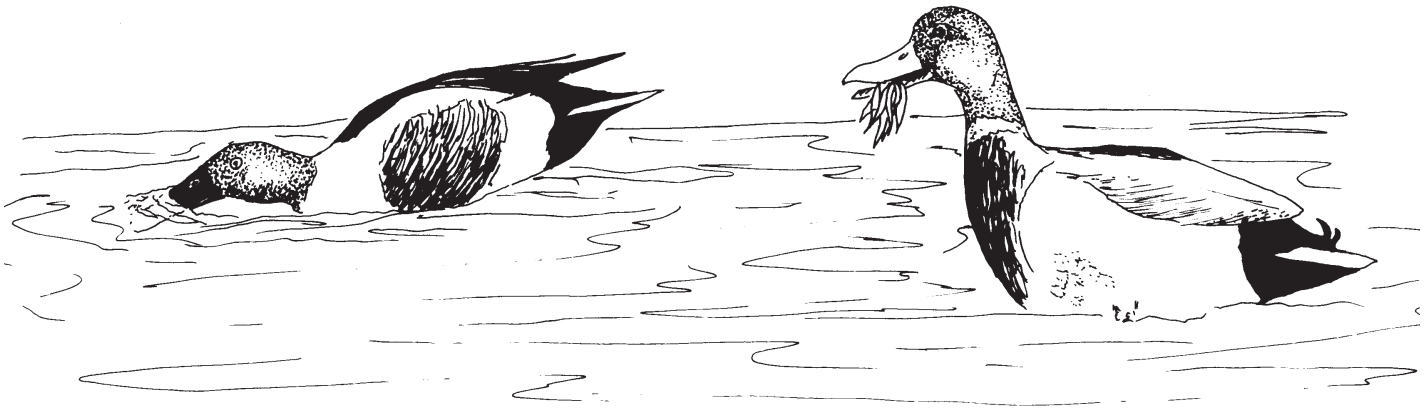
Bouncing baby bunnies bother bashful butterflies in Burlingham.

Bb



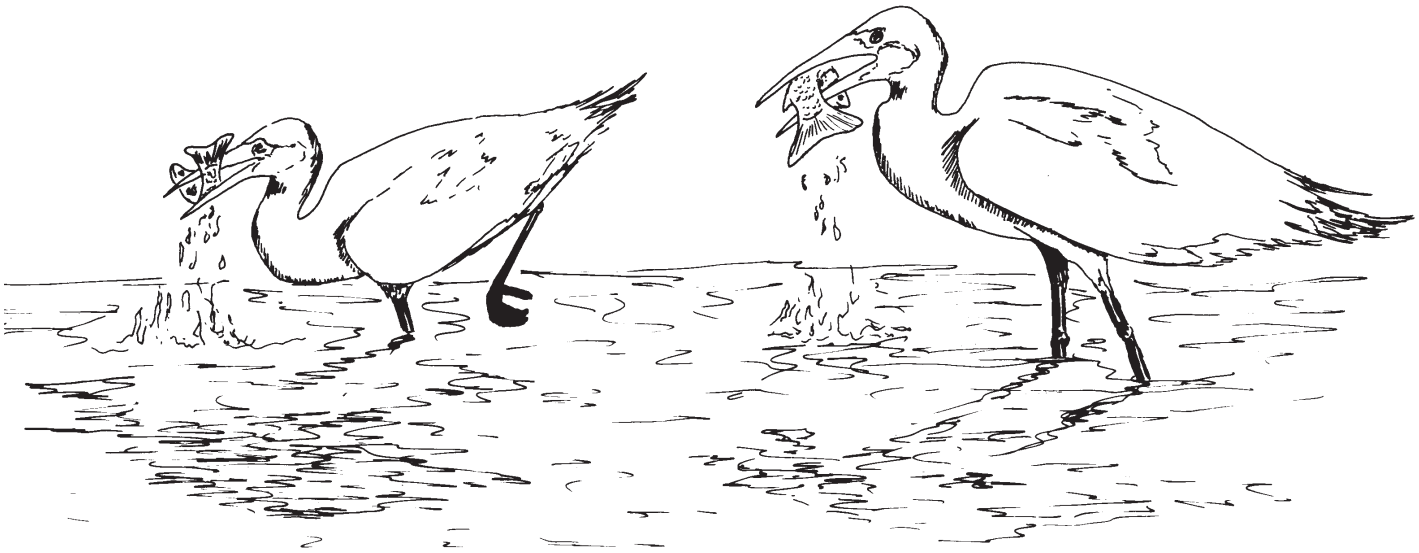
Can Concordia citizens carefully count catfish close-up?

Cc



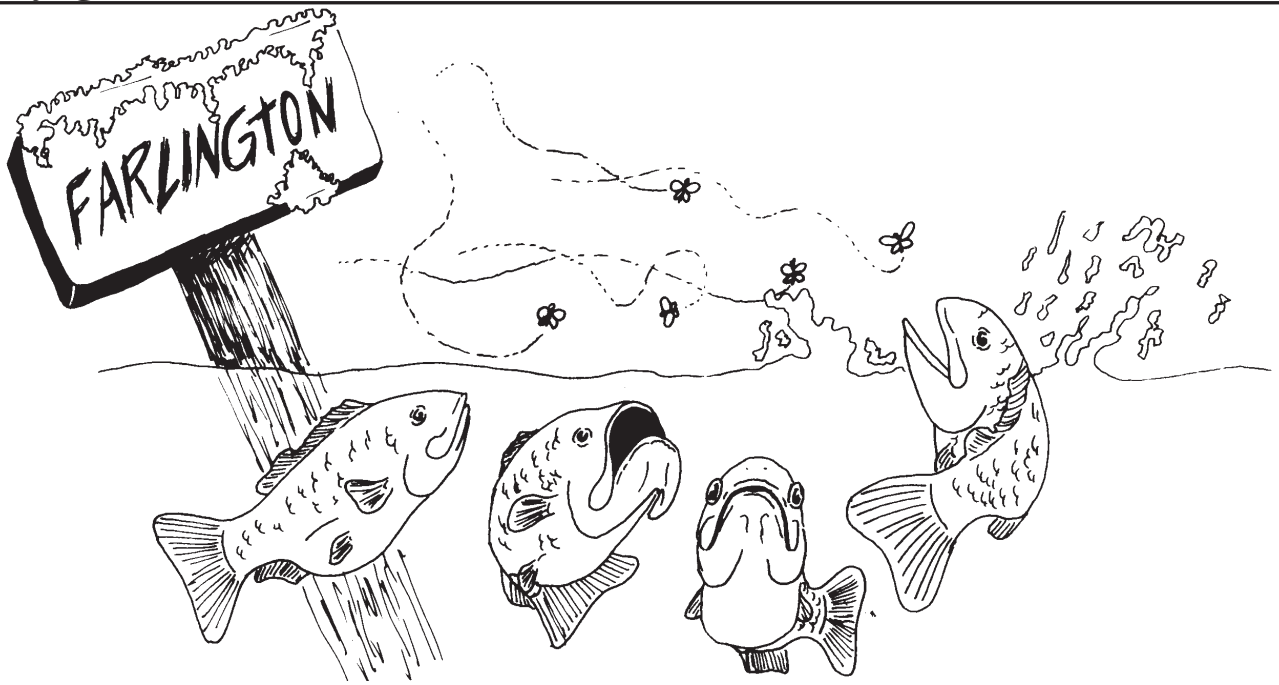
Dabbling ducks don't drop delicious dinner.

Dd



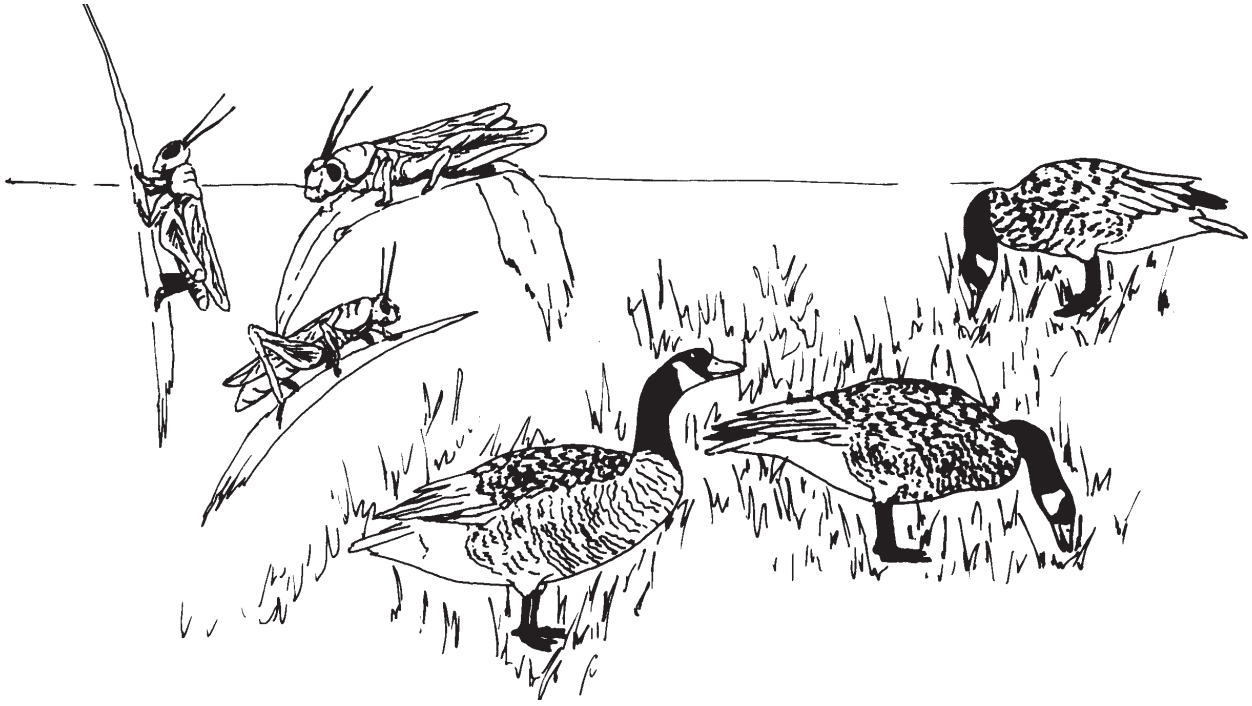
Emporia's elegant egrets eagerly eat everything.

Ee



Four fat fish found five flies from Farlington.

Ff



Grasshoppers gobble grass, but geese get them in Great Bend.

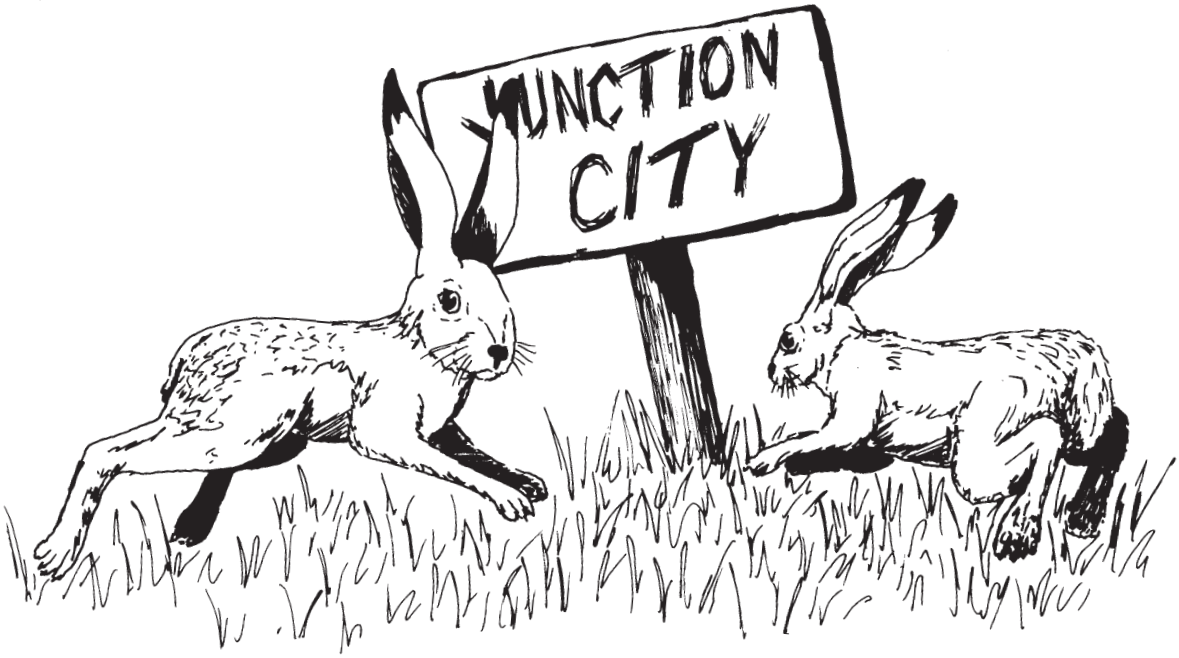
Gg

Happy hunters have hearts.

Hh

Indigo Buntings ingest invading insects in Iola.

Ii



Jumping juvenile jack rabbits jointly jog jubilately towards Junction City.

Jj

Keen-eyed kestrels knowingly kick-up katydids in Kingman.

Kk

Lazy largemouthed lizards lounge in Lawrence.

Ll

Mighty myotis munch merrily on menacing mosquitos at Milford.

Mm

Naturalists never navigate near Newton's nesting nuthatches.

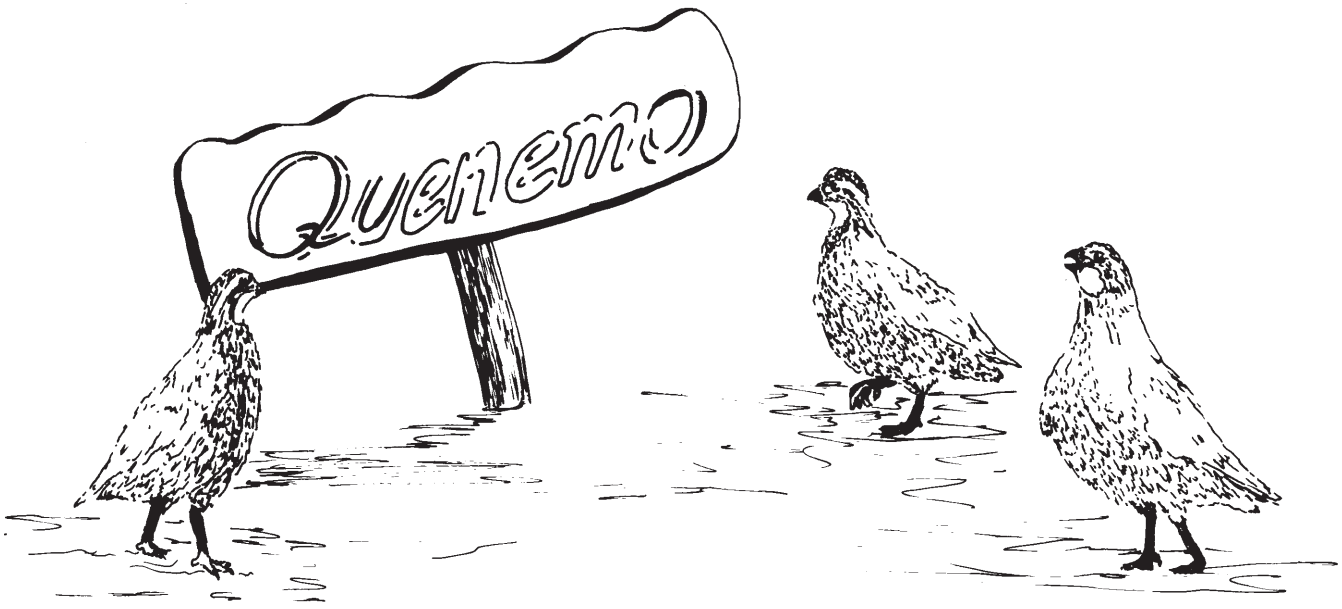
Nn

Owls observe otters in Ottawa.

Oo

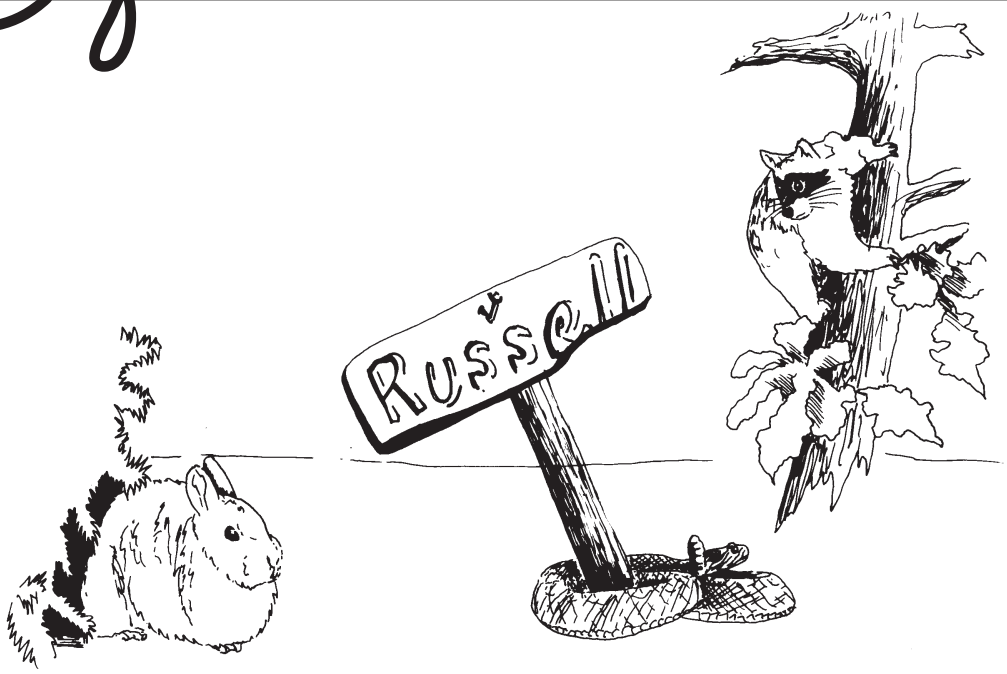
Peppy prairie dogs perch on peaks in the plains.

Pp



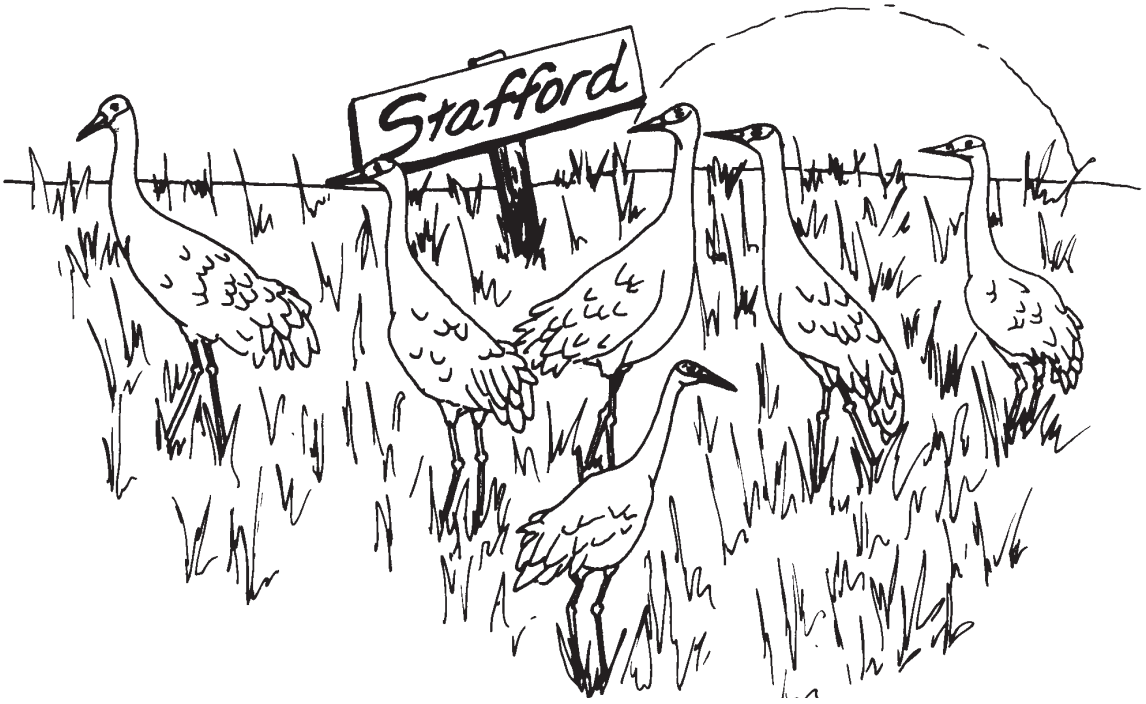
Quail are quite quaint in quiet Quenemo.

Qq



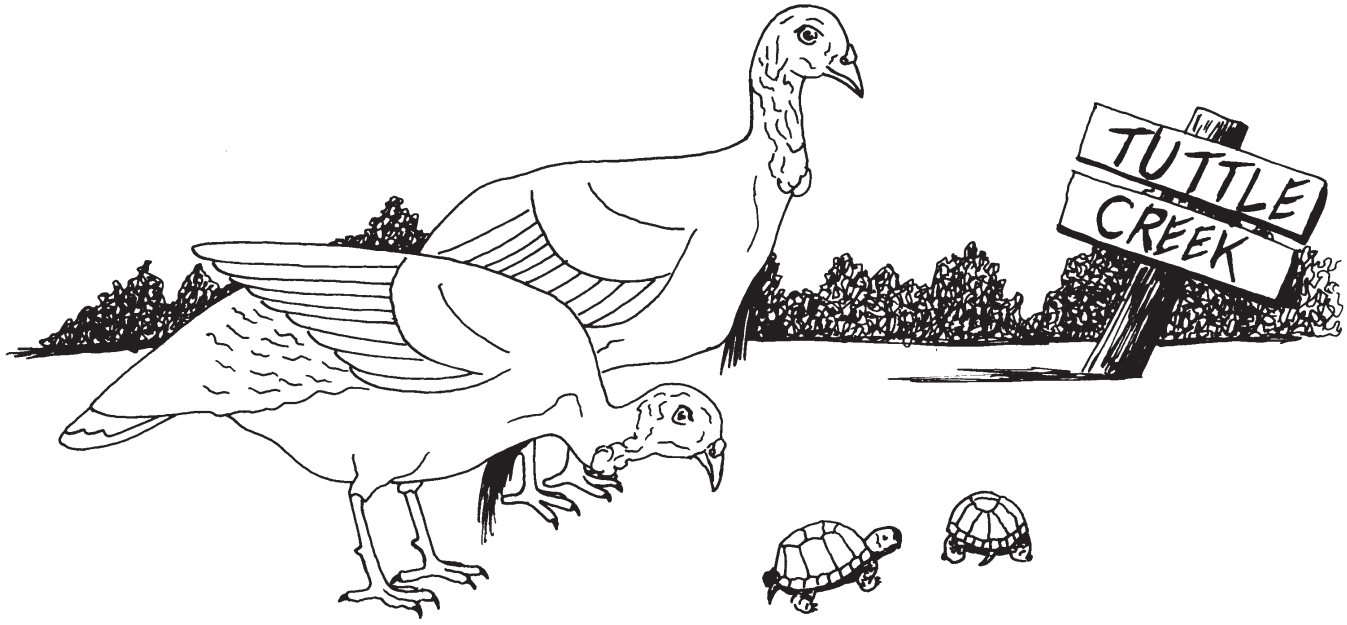
Raccoons, rabbits and rattlesnakes reside in rural Russell.

Rr



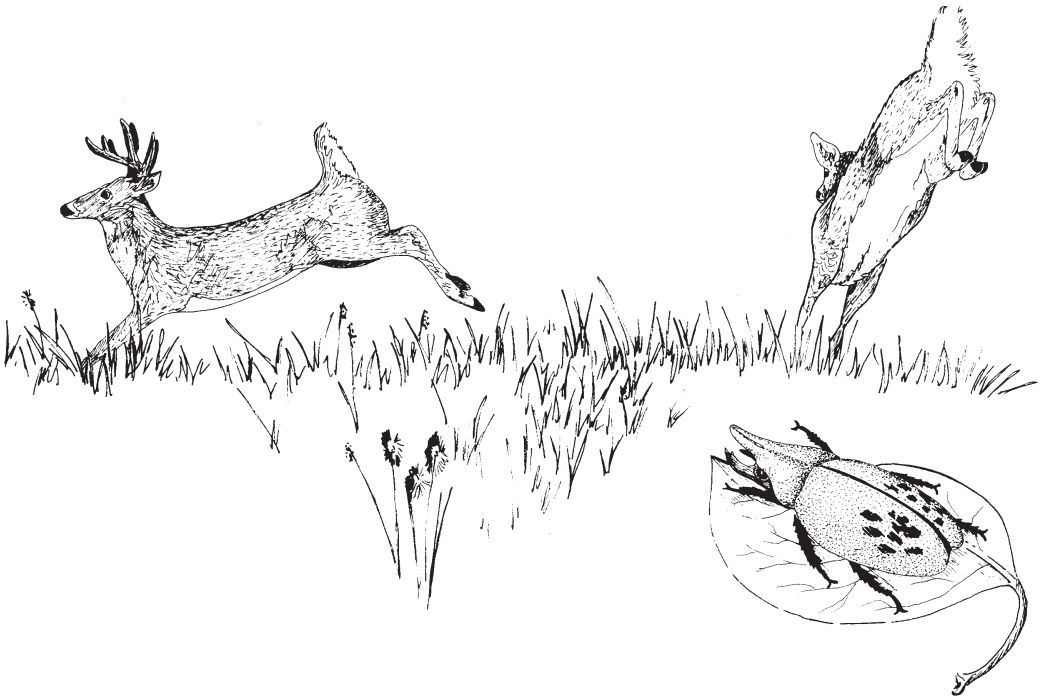
Six sandhill cranes stand stately at Stafford.

Ss



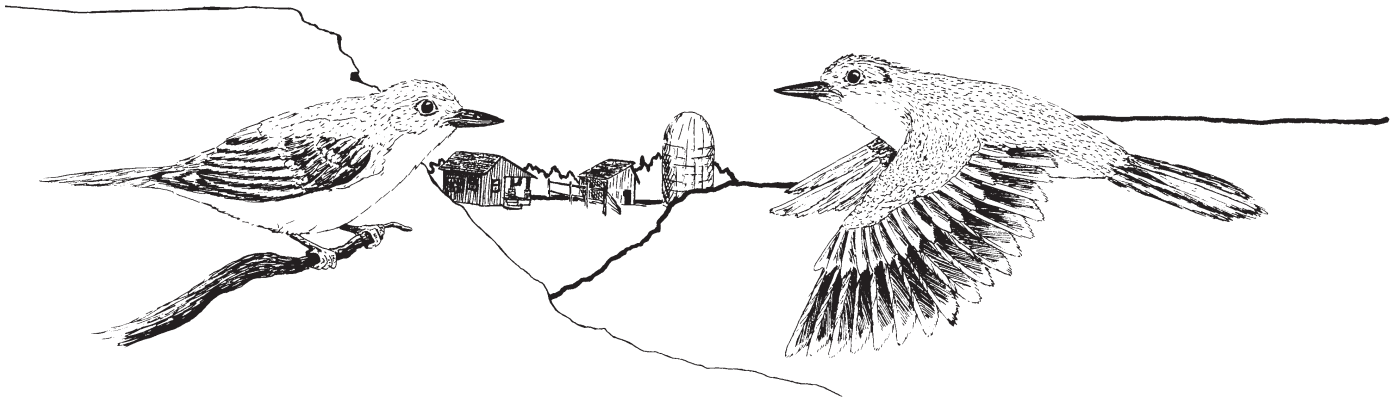
Tom turkeys trip timidly on two tiny turtles trotting towards Tuttle Creek.

Tt



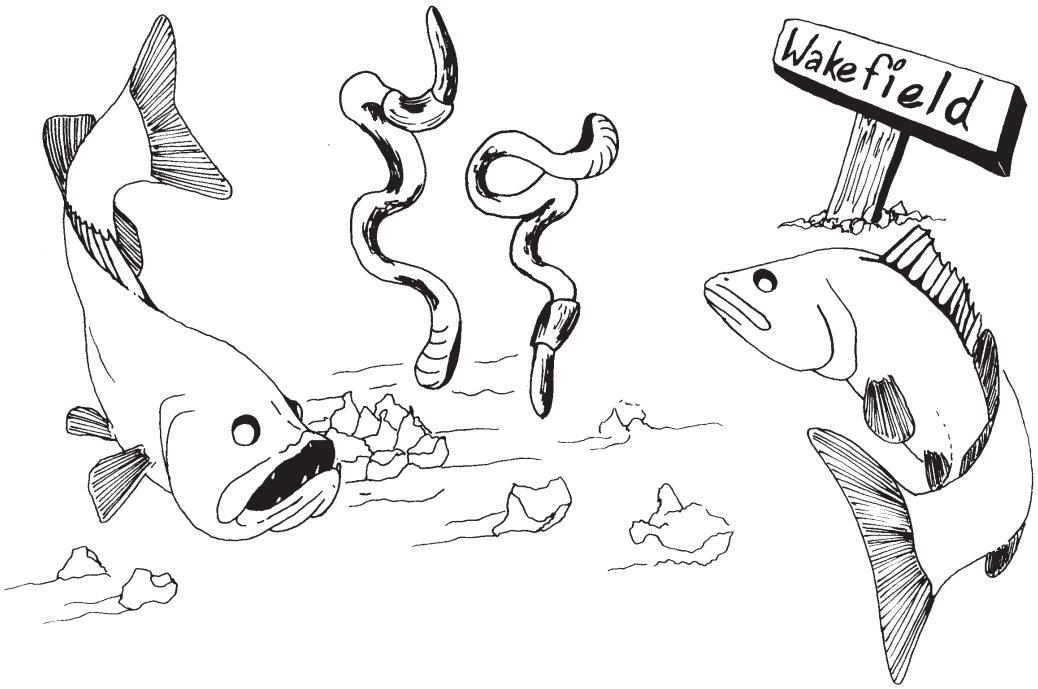
Unusually ugly unicorn beetles upset unsuspecting ungulates.

Uu



Very vigorous vireos invade valleys and villages near Vermillion.

Vv

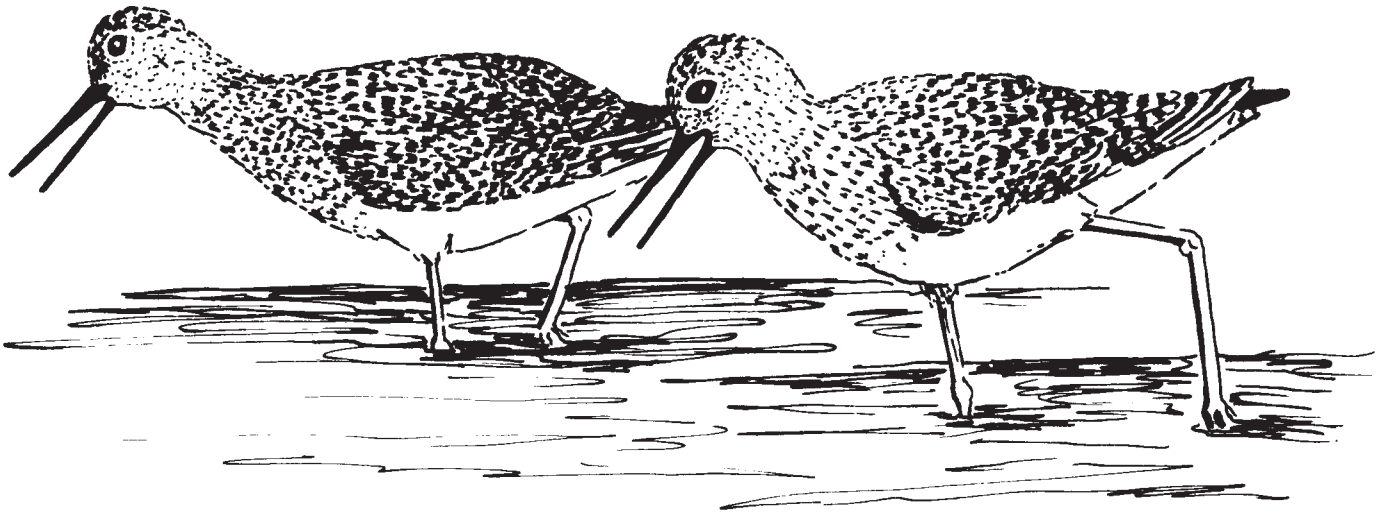


Wiggly worms wrinkle while wading with Wakefield's walleye.

Ww

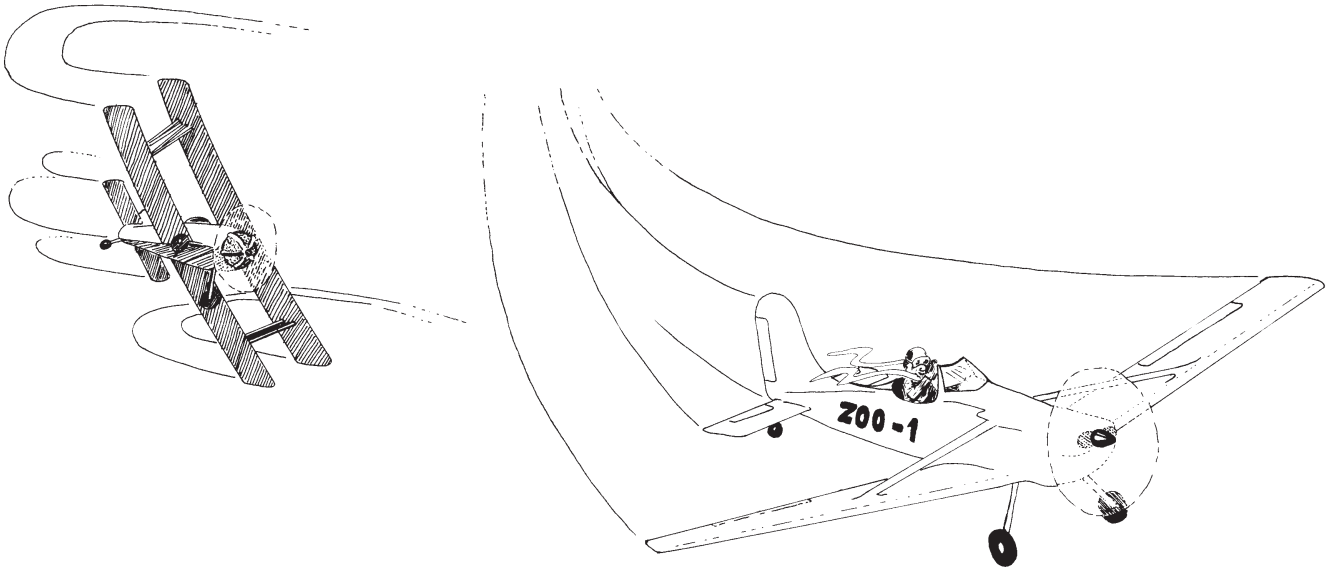
A Xenophobic *Xanthocephalus* (yellow headed blackbird) stands in Xanadu.

Xx



Yes, young yellowlegs yawned in Yates Center yesterday.

Yy



Zooming zoologists zigzag in Zenda.

Zz

WILDLIFE'S RAINBOW

NAME _____

Red is the color of lady bugs, cardinals, and apples to munch on a warm, fall day. Red sunsets glow on red foxes, red-headed woodpeckers, and Indian blanket flowers on the prairie.

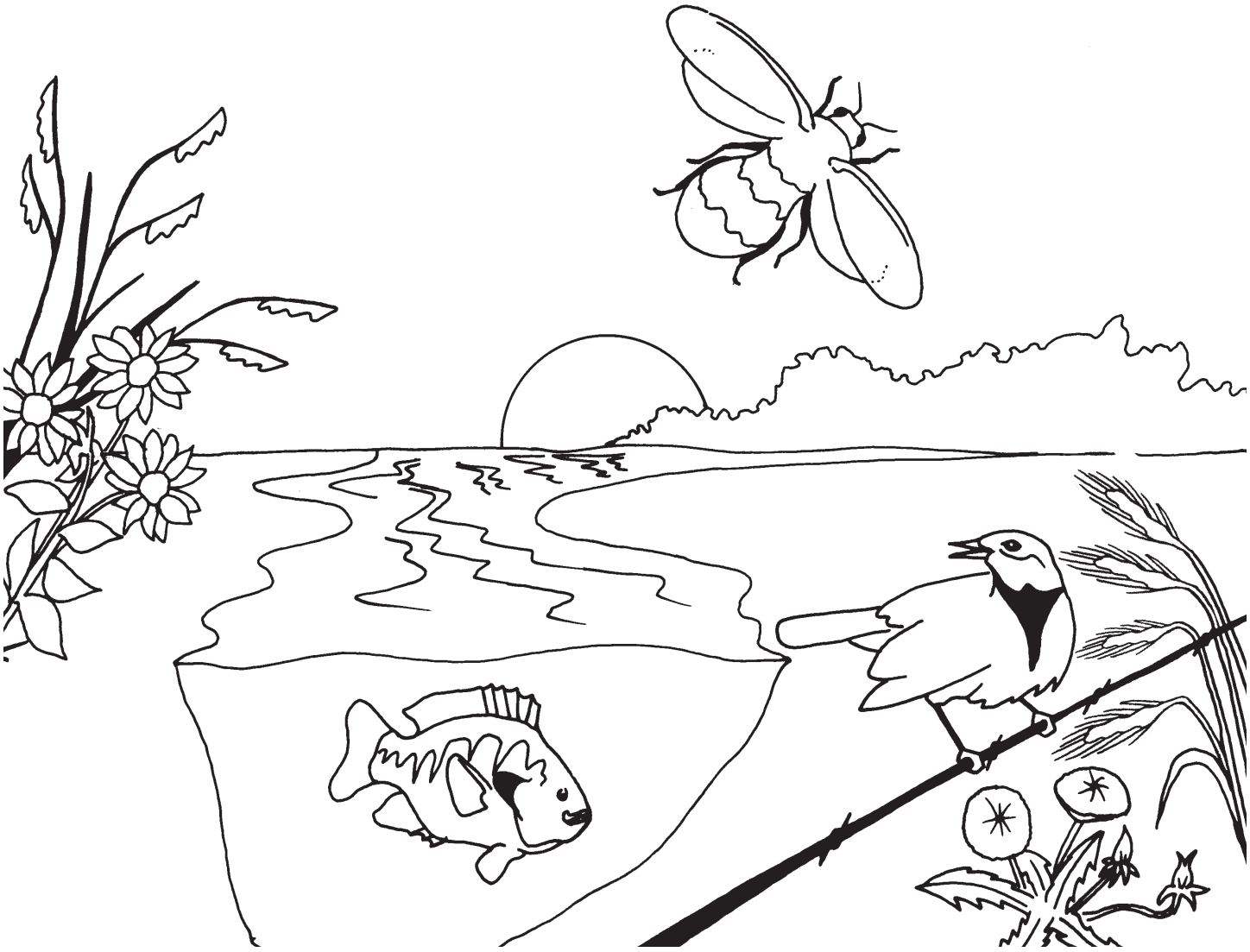
WILDLIFE'S RAINBOW

NAME _____

Blue is the color of bluejays and bluebirds flying in the sky. A blue racer is near the water where the bluegills and great blue herons live.

WILDLIFE'S RAINBOW

NAME _____



Yellow is the color of bumblebees, dandelions, meadowlarks, and dried buffalo grass in the morning light. The sun shines on the sunflowers, wheat, and sunfish we have in Kansas.

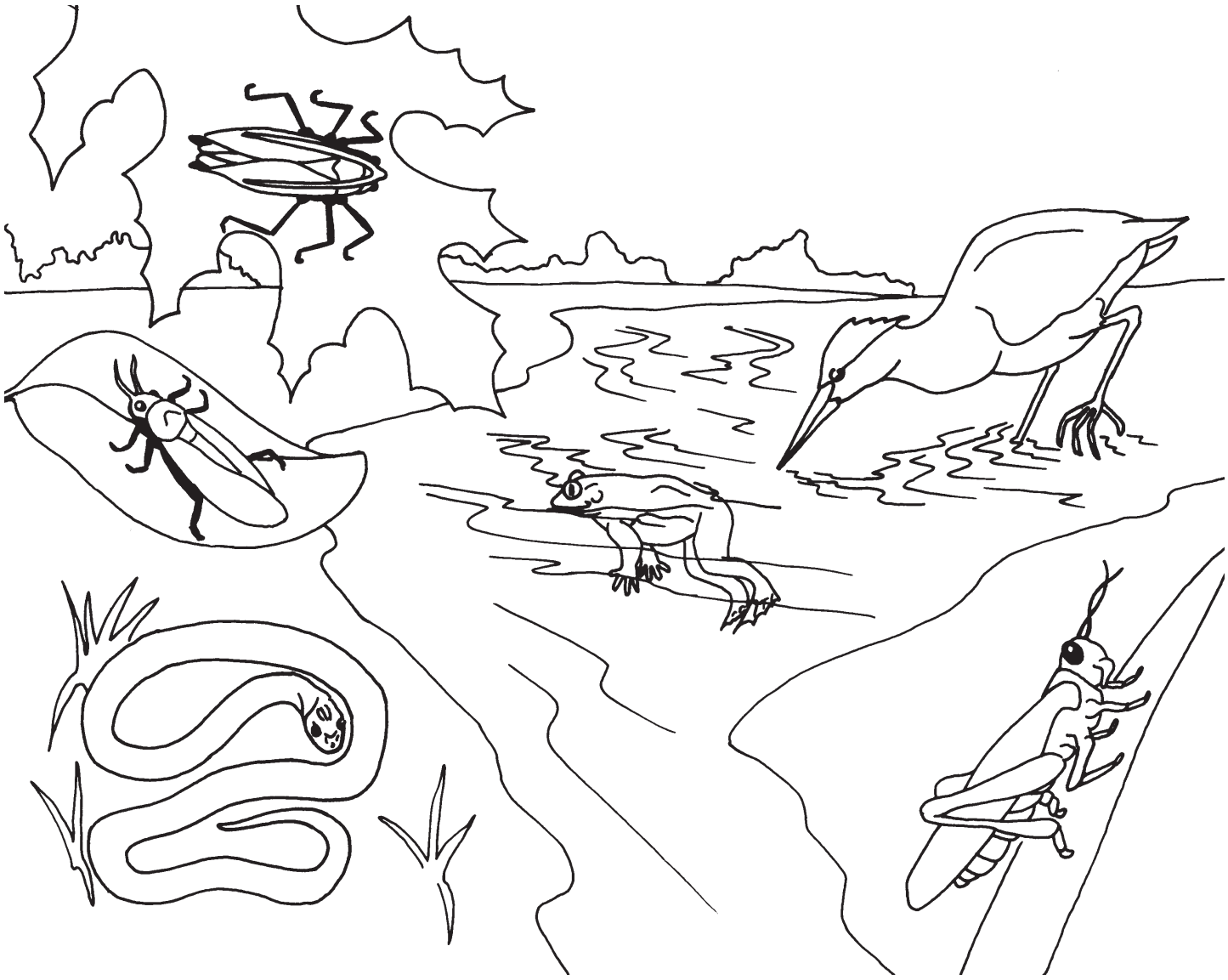
WILDLIFE'S RAINBOW

NAME _____

Brown is the color of bison, owls, and rattlesnakes that live on the prairie. It is also the color of squirrels, rabbits and deer that jump over branches in the woods.

WILDLIFE'S RAINBOW

NAME _____



Green is the color of grasshoppers and frogs that green herons eat. Leaf hoppers, green snakes, and katydids live near the green leaves and grass.

WILDLIFE'S RAINBOW

NAME _____

Black is the color of a skunk's bushy fur and a caterpillar in the blackbird's beak. Dark, stormy clouds rain on chickadees, crows, and the raccoon's black mask.

Seasons Make a Scene

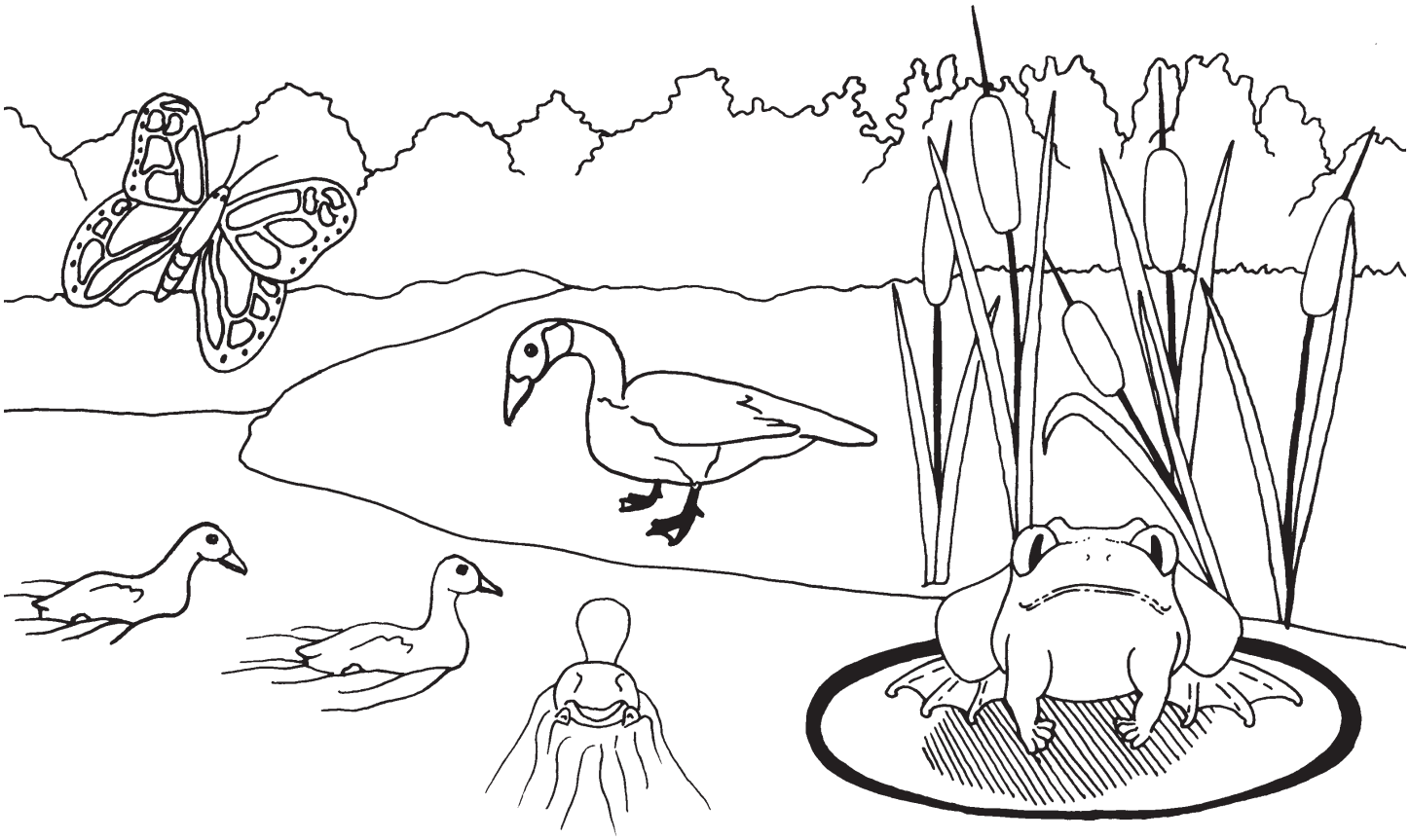
NAME _____

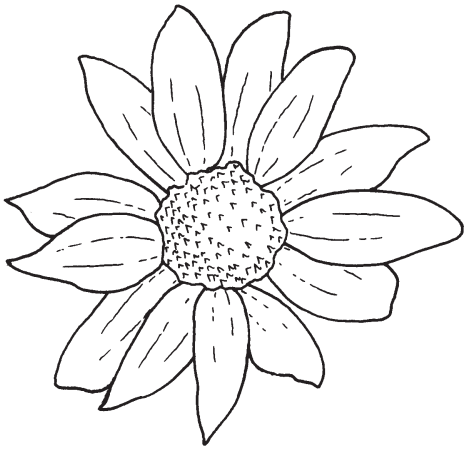
Spring Fling

Spring brings warmer days, flowers, food, singing birds and animal young.

Seasons Make a Scene

NAME _____



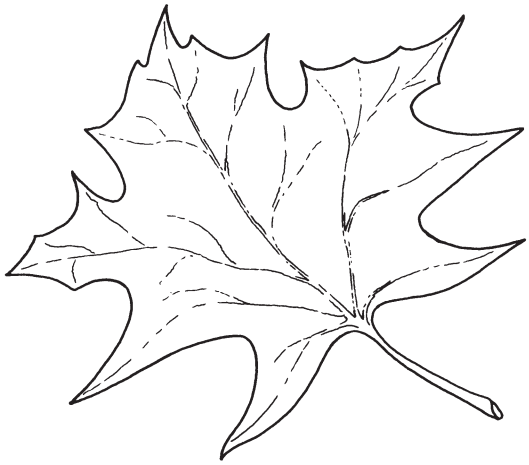


Summer Sunshine

All things that love the sun are out feeding and raising young.

Seasons Make a Scene

NAME _____

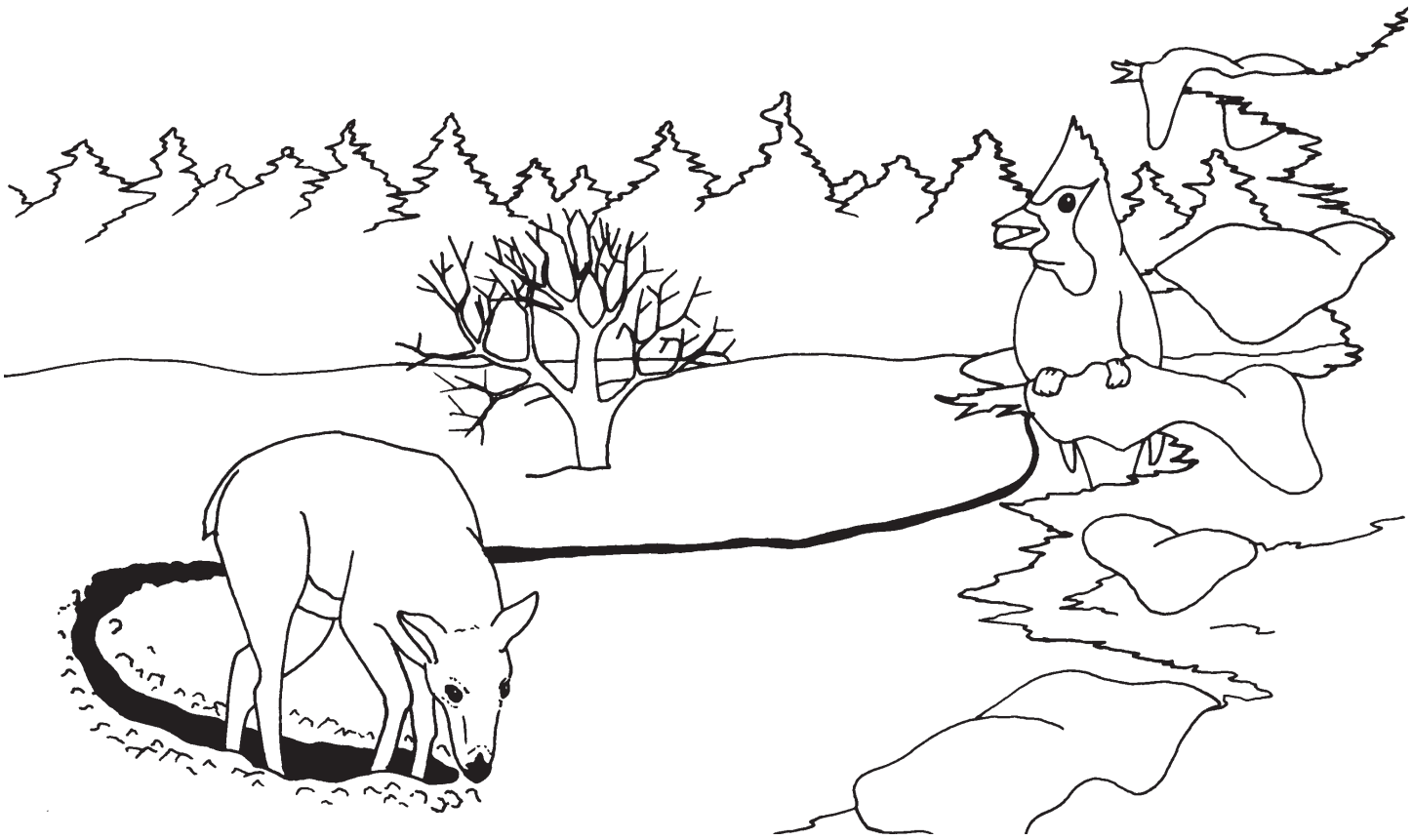


Frisky Fall Friends

Fall is the time to fatten up and store food for the long, cold months ahead .

Seasons Make a Scene

NAME _____



Wildlife in Winter

Eating, sleeping, and staying warm are winter's biggest chores.

NAME _____

WILDLIFE IN BOOKS

Many books have been written about wildlife. Read a book about wildlife and answer the questions below.

Title of book:

Author:

Illustrator:

Copyright date:

Publisher:

1. Is the story fiction or nonfiction?

2. Name the main characters. What species of animals are in the story?

3. If there are human characters in the story, name them.
   How do the people respond to the animals?

4. What is the setting of the story? When does it take place?

5. Does the story describe examples of habitat? If so which ones?

6. The main character in a story is often the hero or protagonist. Who is the hero/protagonists in your story?

7. Some stories have an antagonist who works against the hero/protagonist. If your story has one, who is it?

8. What is the main problem, or conflict, the characters meet?

9. How do the characters solve the problem?

10. What is the most exciting part, or climax, of the story?

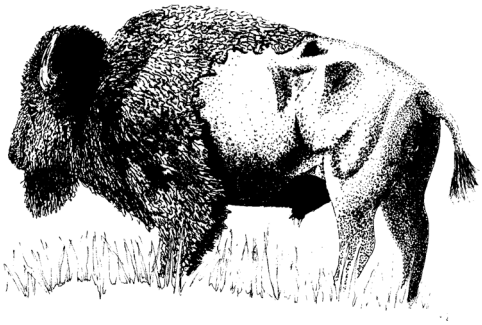
11. Anthropomorphic means giving human characteristics to nonhuman things. Do the animals in your story behave like people or did they behave as animals do? Describe.

12. What is your opinion of the story? Tell why you liked or disliked it.

DOMESTIC Vs. WILD

NAME _____

Can you match the domestic animal with its wild counter-part? Draw a line from the domestic animal to the wild animal.

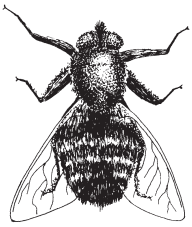
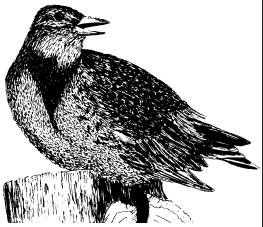
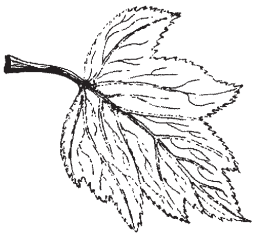
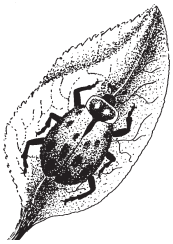
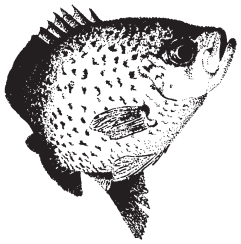
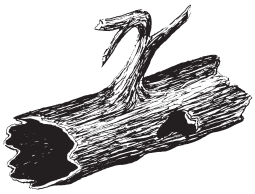
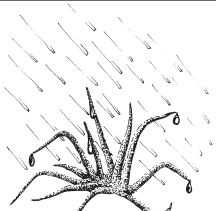
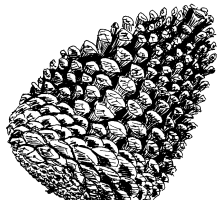


DOMESTIC	WILD
House Cat	Gopher
Dairy Cow	Pheasant
Pig	Mallard
Dog	Bobcat
Horse	Canada Goose
Hamster	Bison
Goldfish	Wild Boar
Domestic Parrot	Coyote
Sheep	Wild Mustang
Chicken	Robin
Domestic Duck	Carp
Domestic Goose	Bighorn Ram

NATURE BINGO

NAME _____

B I N G O

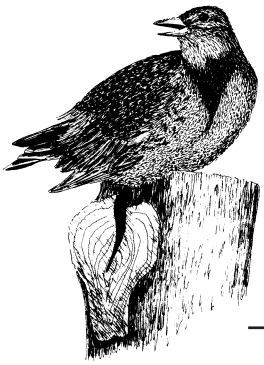
 Soil	 Cloud	 Fly	 Bird Singing	 Leaf
 Prairie	 Crawling Insect	 Tree	 Seeds	 An Animal Moving
 An Animal Eating	 Spider	Free	 Butterfly	 Flower
 Fish	 Grass	 Hollow Log	 Hill	 Nest
 Lake, Stream or River	 Rain or Dew	 Mushroom	 Shadow	 Pine Cones

Directions: Check off what you see. You do not need to pick anything.

WILDLIFE MIX AND MATCH

NAME _____

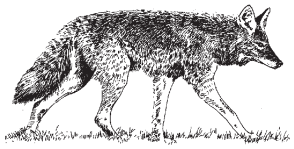
Directions: Match the animal with the sentence that describes it. Print the animal's name in the blank below its picture.



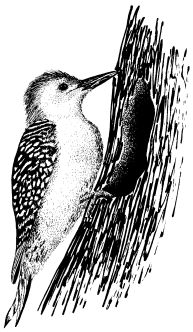
_____

_____

_____



_____



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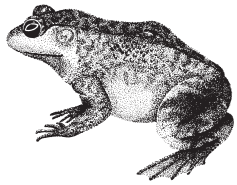

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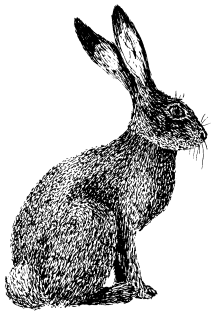
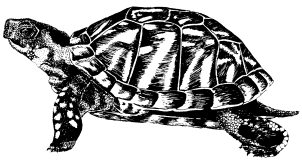


_____



_____

_____

A. It uses its beak and tongue to get its food.

B. A plant-eating insect.

C. An amphibian that eats insects, worms, and snails.

D. A mammal that eats rabbits, mice, and watermelon.

E. This bird eats grain, caterpillars, ants, crickets, and weed seeds.

F. Hunts for meals of scorpions, lizards and snakes.

G. A plant-eater that browses on sagebrush, grasses, and other prairie plants.

H. A small plant-eater that likes clover and grass.

I. A reptile that eats worms, snails, insects, and berries.

J. It feeds on insects and fish by using its sense of smell and taste.

Key

What is Wildlife

MIX AND MATCH - PAGE 10

Coyote - C & 1
Deer - B & 4
Raccoons - F & 8
Skunks - D & 2
Foxes - A & 6
Bobcats - H & 7
Beavers - G & 5
Rabbits - R & 3

WILDLIFE RIDDLES - PAGE 18

Left to Right:

Top: Flathead Catfish, Honey Bee

Middle: American Bison, Ornate Box Turtle

Bottom: Coyote, Tiger Salamander

NAME THE ANIMALS WITH A LETTER - PAGE 19

Top - Left to Right: flycatcher, rattlesnake, quail, beetle, bison, gopher, lizard

DOMESTIC VS. WILD - PAGE 47

House cat - Bobcat
Dog - coyote
Goldfish - carp
Chicken - pheasant
Dairy cow - bison
Horse - wild mustang
Domestic parrot - robin
Domestic Duck - mallard
Pig - wild bore
Hamster - gopher
Sheep - bighorn ram
Domestic Goose - Canada goose

WILDLIFE MIX AND MATCH - PAGE 49

Top to Bottom: Catfish - J
Meadowlark - E
Coyote - D
Downy woodpecker - A
Burrowing owl - F
Bullfrog - C
Grasshopper - B
Rabbit - H
Box turtle - I
Antelope - G

Habitat

INTRODUCTION AND RESOURCES

Most plants and animals can not live just anywhere. They must have just the right requirements in the proper amounts. Their habitat must supply these basic requirements of water, food, shelter, and adequate space to carry on necessary activities, such as food gathering, breeding and the raising of their young. Often habitat refers to the wildlife's home, but we must think larger than just a "house". A "home" for wildlife resembles a neighborhood that contains everything wildlife needs to survive. This balance between wildlife and its habitat can be a fragile one. Some species of wildlife would perish if they were moved just a few feet from their natural habitat. A fish out of water would be a good example. Other species of wildlife are more adaptive to different habitats, such as a coyote.

Wildlife can serve as an important indicator of the overall health of a habitat. Little evidence of wildlife in an area indicates the environment is not providing the necessary components to maintain life. The question we need to address is "Why"?

We must also realize we share the same basic needs as wildlife and must derive these from our habitat. Too often, we have altered or destroyed the habitat for wildlife to satisfy our needs for roads, housing developments, shopping centers and areas for croplands. We let our needs override the basic requirements for wildlife. Better planning and awareness is required to reduce the impact our actions have on the natural habitat of wildlife. If we are not careful, the capacity for wildlife to survive will ultimately not be assured.

The following additional resources to available to assist you:

REFERENCE CENTER

Game Kits

GK-22	Save the Forest Ecology Game
GK-26	The Pond
GK-56	Animal Habitat Bingo

Filmstrips

FS-7	Animals in Winter
FS-15A	Animal Homes
FS-17	Places Where Plants and Animals Live
FS-18B	Animals in the City
FS-47	Room to Live—Animal Homes and Territories

Posters

PP-44	Save Some for Us
PP-72	River of Life
PP-73	Life in a Freshwater Marsh
PP-76	Help Save Their Layers of Life—Rainforests
PP-84	Home is Where the Habitat Is
PP-126	Animal Homes
PP-127	Exploring a Forest Habitat
PP-128	Exploring a Wetland Habitat

Slide Series

SS-19	The Deciduous Forest—Tall Grass Prairie Ecotone
SS-20	The Ecology of the Prairie
SS-28	Kansas Wildlife and Their Habitat

Video Tapes

VT-30	Wildlife and the Farm
VT-129	Grasslands of Kansas
VT-168	The Secret of the Pond
VT-169	The Puzzle of the Rotting Log
VT-170	What's in Your Backyard?
VT-172	Life in the City Habitat
VT-173	Down on the Forest Floor
VT-183	3-2-1 Contact: You Can't Grow Home Again
VT-194	Animals That Live in the City
VT-270	Welcome to Our Wetlands

ON T.R.A.C.K.S. NEWSLETTER

Check the "Species Spotlight" section of each On T.R.A.C.K.S. issue. The following issues are excellent resources for wildlife habitats.

The On T.R.A.C.K.S. Newsletter can be obtained for free by contacting the Wildlife Education Services section of the KS Dept of Wildlife & Parks by writing to C/O WES, KDWP 512 SE 25th Ave. Pratt, KS 67124 or phoning (620) 672-5911 or by E-mail at ShelbyS@wp.state.ks.us.

The Prairie . . . . . Vol. 3, No. 3
Winter is WILD! . . . . . .Vol. 5, No. 2
Habitat Sweet Habitat . . . . . Vol. 6, No. 3
Life in a Pond . . . . . Vol. 7, No. 2
Kansas Amphibians & Reptiles . . . . . Vol. 8, No. 1
Kansas Wildlife from the Past . . . . . Vol. 8, No. 2
Plants & Our Kansas Habitats . . . . . Vol. 9, No. 3

PROJECT AQUATIC

ACTIVITY	PAGES NEW GUIDE	PAGES OLD GUIDE
Designing a Habitat	19	20
The Edge of Home	75	68
Pond Succession	66	
Puddle Wonders	114	22
Hooks and Ladders	43	76
Something's Fishy Here	145	176

PROJECT LEARNING TREE

ACTIVITY	PAGES
Are Vacant Lots Vacant?	153
Picture This	16

PROJECT WILD

ACTIVITY	PAGES NEW GUIDE	PAGES OLD GUIDE
Classroom Carrying Capacity	9	126
Everybody Needs a Home	59	32
Habitat Lap Sit	61	34
Thicket Game	114	112
Too Close for Comfort	300	254
What Bear Goes Where?	118	98
Wildlife is Everywhere!	51	20

Habitat ?

TABLE OF CONTENTS

K-First Grade - ▼
Second Grade - ■
Third Grade - ●

51-53 **INTRODUCTION**

■ ● 54 **Quiz:** Circle or write in the correct answer.

■ ● 55 **Where Do I Belong:** Place the animal in the right habitat.

▼ ■ ● 56 **Habitat Cubes:** Create a habitat cube for the habitats you have studied.

▼ ■ ● 57 **Habitat is Essential for Wildlife:** Decide what habitat is best for the animal pictured.

▼ ■ 58 **What Do I Need To Live:** One of the four is not needed by the animal– which one is it?

● 59 **Habitat Crosswords:** Solve the crossword puzzle from what you have learned about habitat

● 60 **Interspersed Vocabulary:** A review of your new vocabulary words.

● 61 **Give Wildlife an Edge:** Place the wildilfe in the habitat best for them.

■ ● 62 **Habitat Word Review:** Choose the best word for the blanks, and find the mystery word.

▼ ■ ● 63 **Habitat Bulletin Board Ideas:** Create bulletin boards from what you have learnd about the habitats of Kansas wildlife.

▼ ■ ● 64 **Wild Bulletin Board Ideas:** Create bulletin boards from what you have learnd about Kansas wildlife.

65 **ANSWER KEY FOR HABITAT**

QUIZ

NAME _____

Score __ __

Directions: Circle the correct answer or fill in the blank with the correct word(s).

1. Wildlife requires these things, food, water, shelter, from their _____ .

2. The bison eats
   A. grass. B. insects C. other animals

3. The flathead catfish finds its food mainly by its
   A. tail B. barbels C. fins

4. This bird has a dark "V" on its yellow chest. _____

5. The barred tiger salamander is a/an
   A. mammal B. reptile C. amphibian

6. You would more than likely find a swift fox in what type of habitat?
   A. wetland B. prairie C. forest

7. The ornate box turtle is
   A. very fast B. only dark colored on its upper shell
   C. always with a built-in shelter

8. An interesting fish because of its bill is the A. bass B. carp B. paddlefish

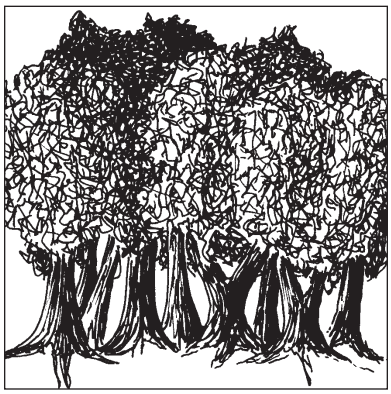
9. Where two habitats come together is called an _____ .

10. Shows the links between plants and animals.
    A. species B. conservation C. food chain

WHERE DO I BELONG?

NAME _____

Directions: Place the name of the animal next to the habitat in which they are likely to be found.

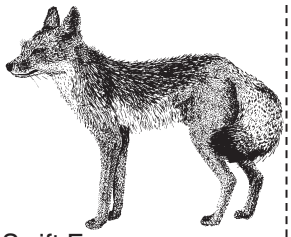


Bison
Walleye
Great Horned Owl
Red-winged Blackbird
Meadowlark
Downy Woodpecker
Mink
Gray Fox
Burrowing Owl
Bull Frog
Gray Squirrel
Muskrat
Prairie Rattlesnake
Channel Catfish
Bluegill
Water Strider
Small Mouth Bass
Swift Fox
Copperhead Snake
Cormorant

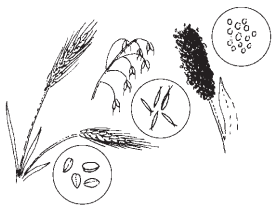
HABITAT CUBES

Directions: Construct a habitat cube for each of the habitats you have studied by cutting out the designs below, along the solid lines, and folding the tabs at the dotted lines. Use glue or tape to secure the tabs together to form a cube.

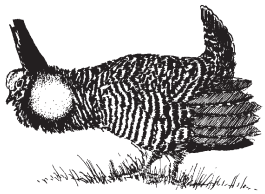
Prairie



Swift Fox

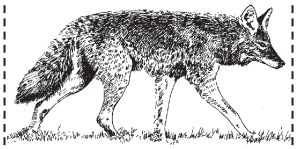


Grain

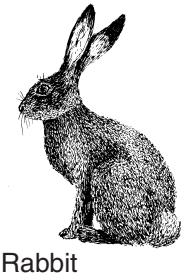


Prairie Chicken

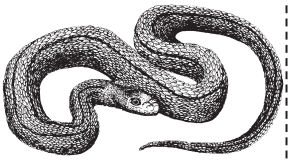
Prairie Grass



Coyote



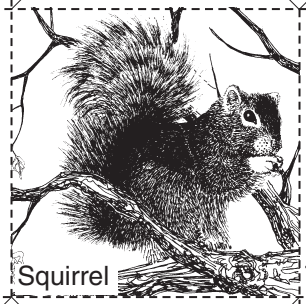
Jack Rabbit



Red-Bellied Snake

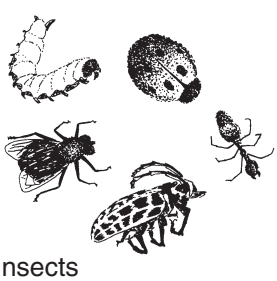
Woodland

Great Horned Owl



Squirrel

Tree



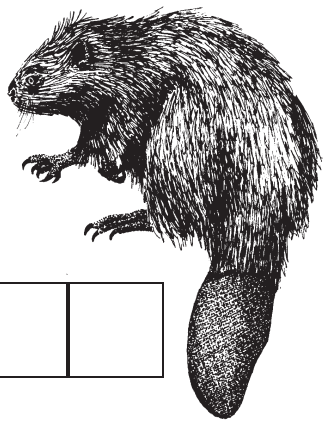
Insects

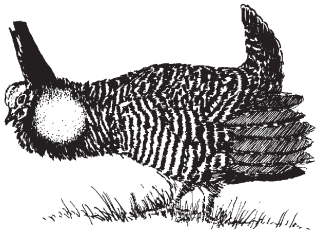
Woodpecker

NAME _____

HABITAT IS ESSENTIAL FOR WILDLIFE

Directions: Habitat is essential (necessary) in order for wildlife to live. You have learned wildlife can live in many different kinds of habitat. In the blank boxes by each animal write the habitat where you would find this animal.





H

A

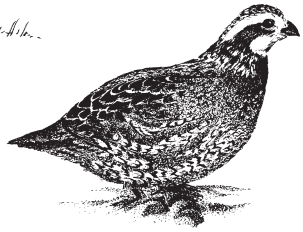
B

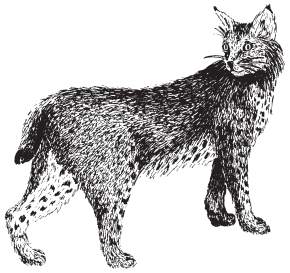
I

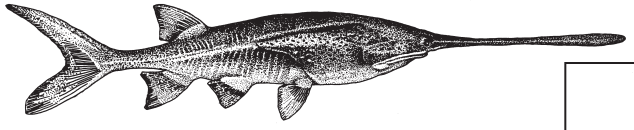
T

A

T



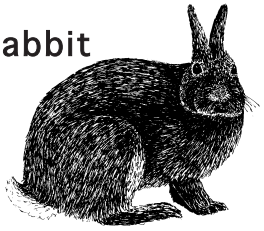
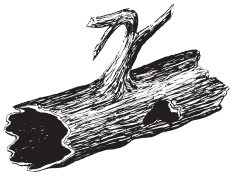
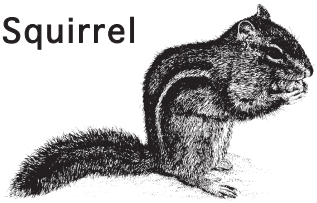
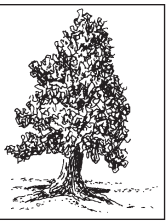
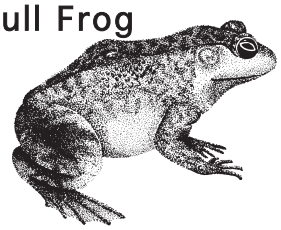
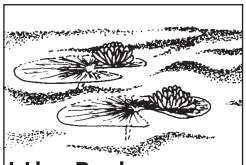
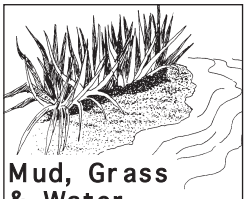
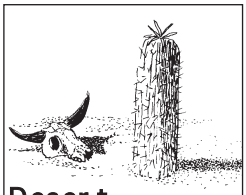
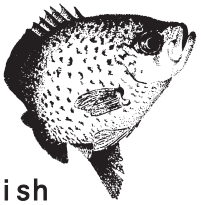
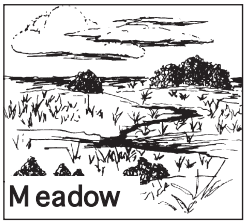
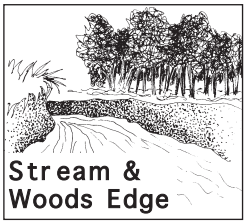
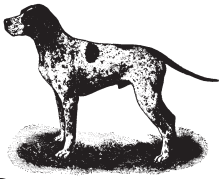
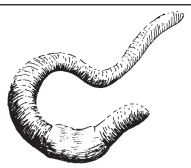
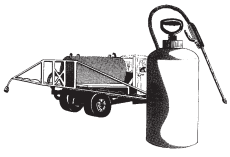




What Do I Need To Live ?

NAME _____

Directions: Place an X over the picture the animal does not need.

Rabbit 	 Grass	 Deer	 Shelter	 Water
Squirrel 	 Tree	 Acorn	 Air, Grass	 Hawk
Bull Frog 	 Lily Pad On Pond	 Mud, Grass & Water	 Desert	 Fly
Deer 	 Fish	 Meadow	 Stream & Woods Edge	 Trees & Shrubs
Raccoon 	 Crayfish	 Stream Bank	 Dog	 Tree & Den
Robin 	 Earthworm	 Insecticide	 Nest	 Trees & Grass

Habitat Crossword

NAME _____

Directions: Habitat is the place an animal lives. See if you can solve the crossword puzzle from what you have learned.

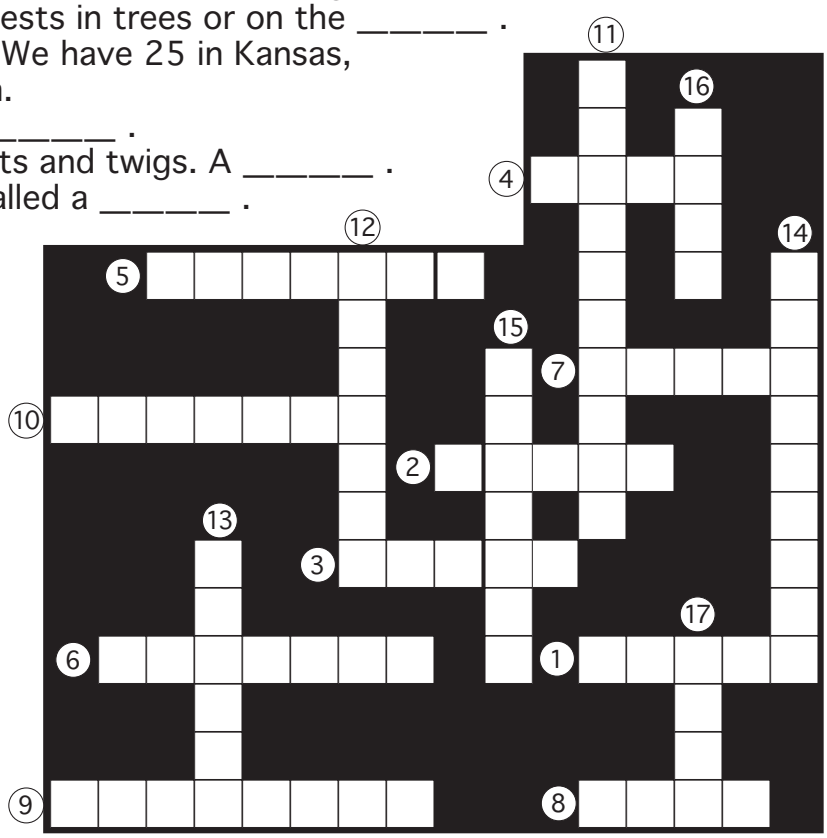
ACROSS

1. Habitat must include food, cover, and _____ for wildlife.
2. The _____ is a special combination of water, plants, and land where muskrats and red-winged blackbirds live.
3. We must learn to _____ the world with wildlife.
4. The place where more than one habitat meets another is called an _____ . Many kinds of wildlife can find what they need here.
5. Channel _____ are popular Kansas fish. The adults like deep water with logs.
6. The place where the prairie chicken dances is called the _____ ground.
7. Cities and _____ can be good placed for wildlife, too. (Barn owls can live here and be helpful friends.)
8. Swift fox have homes called _____ .
9. You might find a great-horned owls in a _____ habitat.
10. The bird who shows orange sacs on his neck when he dances to find a mate is a _____ .

DOWN

11. An interesting looking fish that is also called a "spoonbill" because of its unusual bill is the _____ .
12. Pileated woodpeckers eat _____ they find by probing in the bark of trees.
13. Swainson's hawks will build their nests in trees or on the _____ .
14. A _____ is built to hold water. We have 25 in Kansas, and they are great places for fish.
15. Grassland habitat is also called a _____ .
16. Many birds build these out of plants and twigs. A _____ .
17. A prairie dog "neighborhood" is called a _____ .

WATER	WOODLAND
PRAIRIE	INSECTS
SOIL	RESERVOIR
DENS	CATFISH
NEST	PADDLEFISH
TOWN	MARSH
GROUND	EDGE
HABITAT	ECOLOGY
PRAIRIE CHICKEN	FARMS
SHELTER	SHARE
BOOMING	FEATHERS
TRACKS	BURROW



Interspersed Vocabulary

NAME _____

Directions: You have been introduced to numerous new words. How well can you do on this vocabulary review?

1. The number of animals a particular habitat can support at a given time is called
   a. limiting factor
   b. arrangement
   c. carrying capacity
   d. distribution.

2. The essential ingredients for a healthy habitat are
   a. water, food, predators, and prey
   b. food, water, cover, and space
   c. food, water, space, and interspersion
   d. natality, mortality, migration, and surplus

3. When two or more different habitats meet each other they form a/an
   a. edge
   b. shelterbelt
   c. arrangement
   d. overcrowding

4. The natural aging process habitat gradually undergoes is called
   a. extinction
   b. diversity
   c. mortality
   d. succession

5. The number of animals of a particular species in a certain habitat is called
   a. overcrowding
   b. population
   c. interspersion
   d. quantity

6. Trees and shrubs that are planted in an arrangement to protect from wind and weather form a
   a. shelterbelt
   b. fence row
   c. brushpile
   d. roadside ditch

7. The quantity of wildlife above the carrying capacity is called
   a. overcrowding
   b. interspersion
   c. surplus
   d. distribution

8. Animals that hunt other animals for food are called
   a. predators
   b. prey
   c. insects
   d. herbivores

9. The most common habitat in Kansas and the Great Plains is
   a. forest
   b. marsh
   c. prairie
   d. thicket

10. The process of adjusting to the changing environment is called
   a. migration
   b. interspersion
   c. distribution
   d. adaptation

GIVE WILDLIFE AN EDGE

NAME _____

Directions: Good habitat is necessary for maintaining wildlife. Where two or more habitat types meet is called an edge. Wildlife tends to concentrate near edges where food, shelter, and water are found. Using the symbol for each of the following animals, place them in the illustration below where they might be found.

Quail - Q
Beaver - B
Deer - D
Hawk - H
Squirrel - S
Prairie Dog - PD
Turkey - T

LEGEND

Woodland, Timber

Stream, Rivers

Grassland, Prairie

Brush, Shrubs

How would the wildlife above be affected if we changed all the grasslands and brush-lands to croplands?

What species would be the least affected by this change?

What other kinds of wildlife would you find here?

HABITAT WORD REVIEW

NAME _____

Directions: Select a word from the list which best fits the blanked space in each sentence. After you have completed each sentence, circle any suffixes or prefixes in the sentence and underline all the compound words.

prairies	Kansas	share
woodland	animals	reservoir
cover	habitat	marshes
shelter	edge	care

1. People who are concerned about their environment _ _ _ _ _ enough to think before they change it.
2. Habitat includes food, water and _ _ _ _ _ _ .
3. Wildlife means all wild living _ _ _ _ _ _ _ _ .
4. Another name for wetlands, where cattails, muskrats, mink, and red-winged blackbirds live, is _ _ _ _ _ _ _ _ .
5. When two or more kinds of habitat meet, they form an _ _ _ _ _.
6. Grasslands, where pronghorn antelope, jackrabbits, and meadowlarks live, are called _ _ _ _ _ _ _ _ _ .
7. A structure built to hold water is a _ _ _ _ _ _ _ _ _ _ .
8. People need to _ _ _ _ _ _ the world with wildlife.
9. Another name for cover is _ _ _ _ _ _ _ _ .
10. Your backyard, playground, school, and house are part of your _ _ _ _ _ _ _ _ .
11. A place with trees and shrubs where squirrels, great-horned owls, and pileated woodpeckers live is called a _ _ _ _ _ _ _ _ .
12. The state whose capitol is Topeka and has prairie, woodlands, streams, lakes, reservoirs, and marshes for habitat is _ _ _ _ _ _ .

MYSTERY SENTENCE

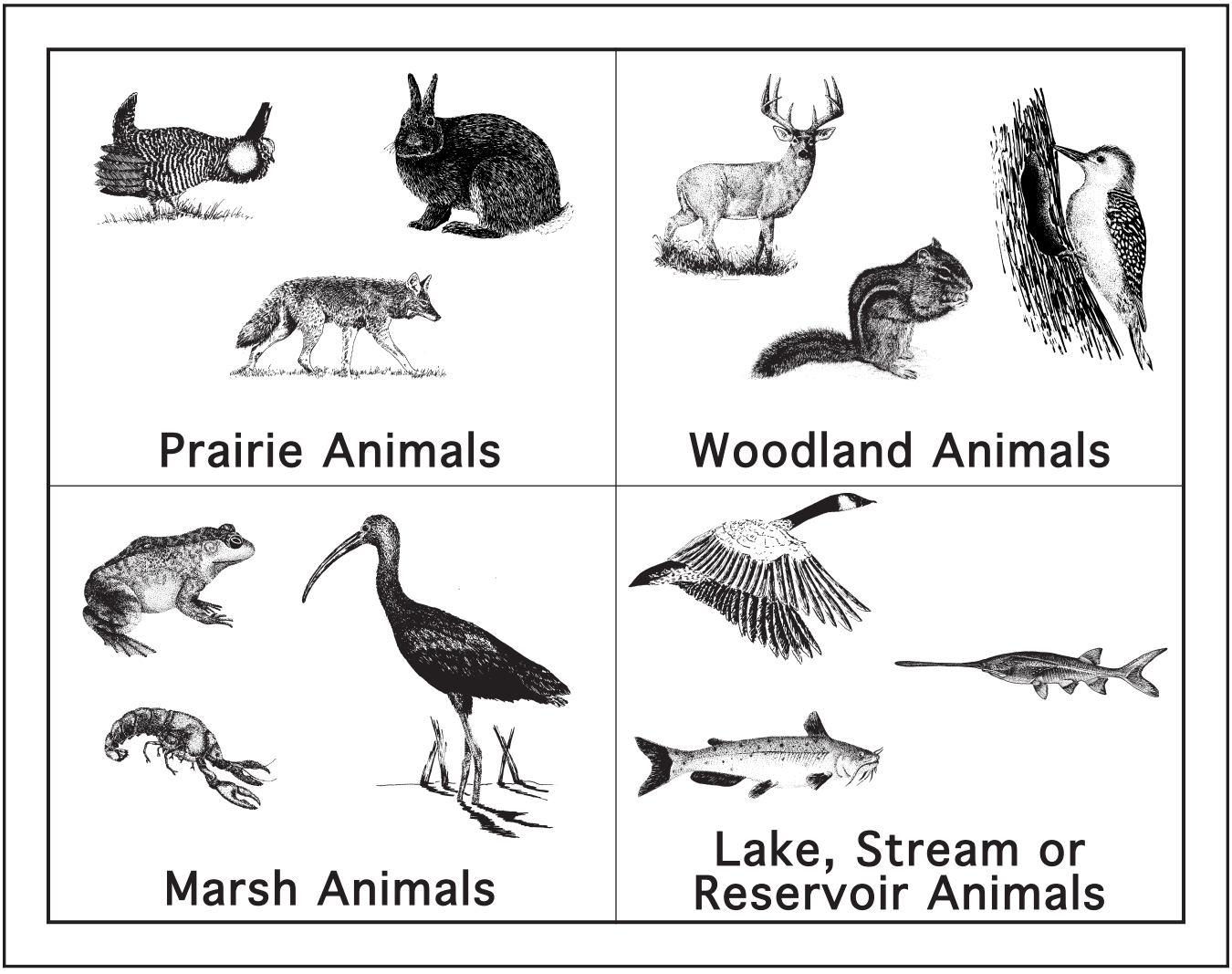
Directions: Use the letters that are boxed, as they appear, to fill the spaces in the Mystery Sentence.

_ _ _ _ _ _ _ _ _ _ _ _ means the wise use of our natural resources.

How may smaller words can you make from the mystery word. Write the words on the back of this sheet or on another sheet of paper. You can not use a letter more than once unless it appears more than once in the Mystery word.

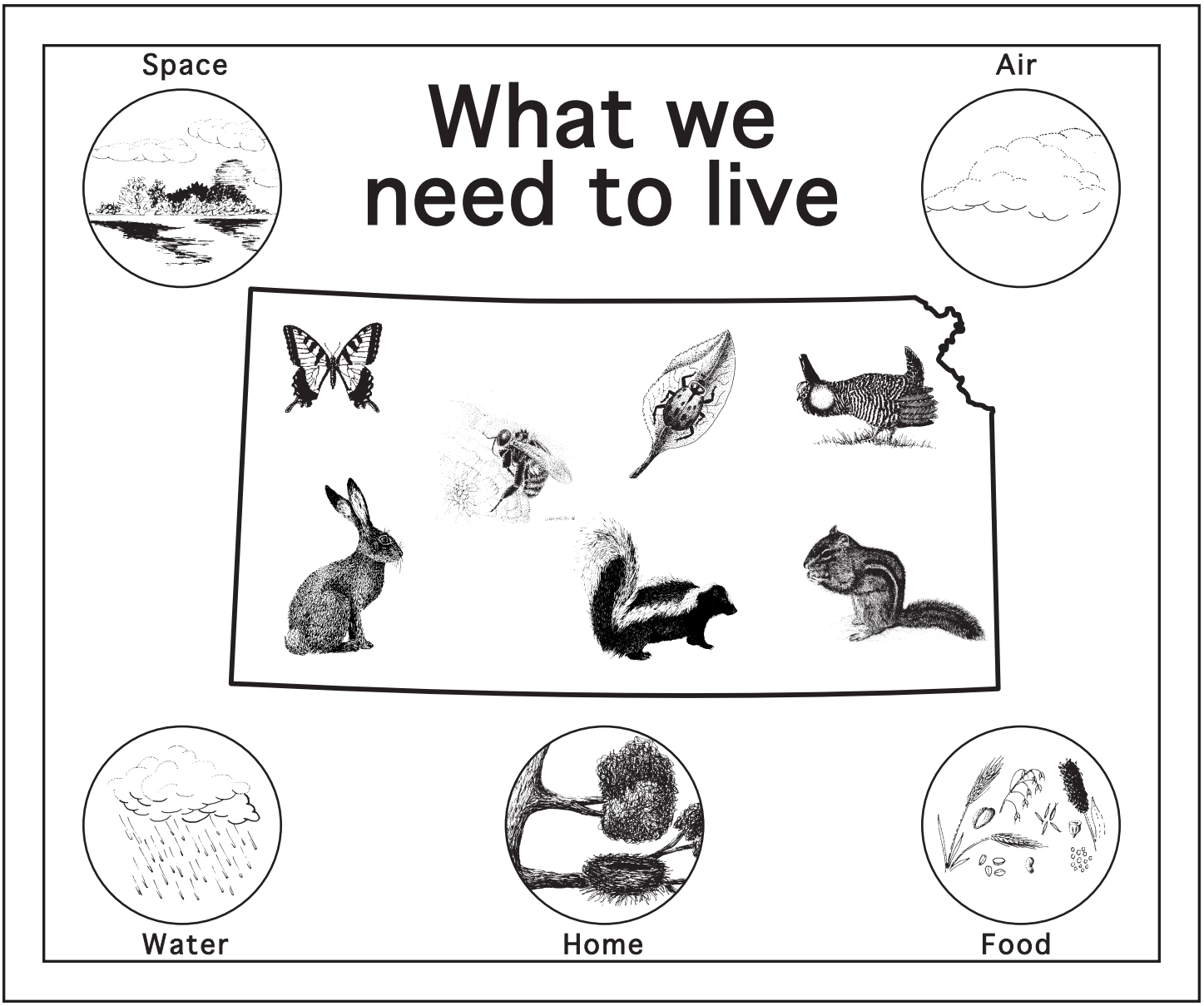
HABITAT BULLETIN BOARD IDEAS

Instructor Directions: Students put up pictures of animals that are found in each habitat. You may want to have some animals correctly placed to guide the students. Plants may also by included.



Wild Bulletin Board Idea

Directions: Cut out illustrations of Kansas wildlife and pin them inside an outline of the state. The basic needs of wildlife surround the map as shown in the illustration below.



Key

Habitat

QUIZ - PAGE 54
1. Habitat
2. A. Grass
3. B. Barbels
4. Meadowlark
5. C. Amphibian
6. B. Prairie
7. C. Always with a built-in shelter
8. C. Paddlefish
9. Edge
10. C. Food chain

WHERE DO I BELONG? - PAGE 55
Woodland - Great horned owl, downy woodpecker, gray fox, gray squirrel, copperhead
Marsh - Red-winged blackbird, mink, bull frog, muskrat, water strider
Prairie - Bison, meadowlark, burrowing owl, prairie rattlesnake, swift fox
Reservoir - Walleye, channel catfish, bluegill, smallmouth bass, cormorant

HABITAT IS ESSENTIAL FOR WILDLIFE - PAGE 57
Top to bottom: Marsh, prairie, brush, reservoir, timber, woodland, stream

HABITAT CROSSWORD - PAGE 59
1. Water
2. Marsh
3. Share
4. Edge
5. Catfish
6. Booming
7. Farms
8. Dens
9. Woodland
10. Prairie Chicken
11. Paddlefish
12. Insects
13. Ground
14. Reservoir
15. Prairie
16. Nest
17. Town

INTERSPERSED VOCABULARY - PAGE 60
1-C Carrying Capacity
2-B Food, Water, Cover, Space
3-A Edge
4-D Succession
5-B Population
6-A Shelterbelt
7-C Surplus
8-A Predators
9-C Prairie
10-D Adaptation

HABITAT WORD REVIEW - PAGE 62
1. Care
2. Cover
3. Animals
4. Marshes
5. Edge
6. Prairies
7. Reservoir
8. Share
9. Shelter
10. Habitat
11. Woodland
12. Kansas

Food Chains & Webs

INTRODUCTION AND RESOURCES

All food chains or webs start with the sun's energy. Green plants are the only organisms which can transfer sun energy into food. This process is accomplished through photosynthesis. Green plants are called producers and form the base level for all food chains and webs.

Herbivores (plant eaters) are the first level of consumers and occupy the second level in a food chain. The final members of the food chain, the carnivores (meat eaters) represent the last consumer in a food chain. As one traces a food chain, the number of organisms in each group decreases. There must be more green plants than plant eaters (herbivores) and more plant eaters than meat eaters (carnivores). The organisms often decrease in size as one moves through a food chain; it takes a large number of small organisms to support one large organism. As one traces a food chain from level to level a loss of bulk and energy will also be evident. Because of the above factor, a food chain can be represented by a triangle with the wide base represented by producers the (green plants) and the tip being the top (carnivore) consumer.

A food web results when several food chains interact with each other. The following examples illustrate this interaction.

Sun - Tree(leaves) - Caterpillar - Bluebird - Sharp-shinned Hawk

Sun - Tree(leaves) - Leaf Beetles - Spider - Vireo - Bobcat

In both food chains the tree, with its green leaves, serves as the primary producer. The caterpillar and leaf beetle are first level consumers because they utilize the green plant as food. The bluebird, spider, vireo, sharp-shinned hawk and bobcat represents the second level consumers (carnivores). The sharp-shinned hawk and the bobcat being the top consumers in their food chain. The organisms from both food chains will interact with each other. The bluebird can use the leaf beetle as food. The spider can utilize the caterpillar as a food source. Vireos may serve as a food source for the sharp-shinned hawk. Bobcats may also use bluebirds for food. One can substitute other organisms or develop another interacting food chain. (pigweed plant, an inch worm and a praying mantis).

All food chains and webs require decomposers. They break down the dead plants and animals and their waste products into simple chemicals which can be utilized by green plants. Without decomposers, the land and water would be littered with dead plants and animals, life as we know it today would be impossible.

It is important to develop an understanding and respect for the members which makeup a food chain and web as well as their role in capturing and transferring energy

(food) from one organism to another.

We all are members of food chains and webs. Humans can impact and influence a food chain or web like no other organism. When we maintain and improve our food plants with fertilizers, insecticides, and various farming methods we can affect the interactions within a food chain or web. We need to encourage students to look at their role as consumers and the formidable impact we have on our natural resources - the backbone of all food chains or webs.

The following additional resources to available to assist you:

REFERENCE CENTER

Books

BK 13-6	Edible? Incredible Pond Life

Game Kits

GK-8	Predator: The Food Chain Game
GK-12	Oh My Deer
GK-44	Into the Forest: Nature's Food Chain Game

Filmstrips

FS-6E	Obtaining Food
FS-15E	Ways Animals Get Food
FS-27	Energy and Nutrient in Ecology

Learning Kits

LK-2	How Animals Get Food
LK-48	Hunting and Predation

Posters

PP-54	Energy Flow in a Wetland
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Slide Series

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VT-25	Predators of North America
VT-27	Plant-Animal Communities: The Changing Balance of Nature
VT-36	Pond Life Food Web
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NATURE'S NOTEBOOK

Birds

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ON T.R.A.C.K.S. NEWSLETTER

The On T.R.A.C.K.S. Newsletter can be obtained for free by contacting the Wildlife Education Services section of the KS Dept of Wildlife & Parks by writing to C/O WES, KDWP 512 SE 25th Ave. Pratt, KS 67124 or phoning (620) 672-5911 or by E-mail at ShelbyS@wp.state.ks.us.

Food Chains & Webs:
Everything is connected . . . . . Vol. 2, No. 1
Bird Feeding Preferences . . . . . .Vol. 4, No. 1
A Pond Food Web . . . . . Vol. 7, No. 2
Owl Pellets . . . . . Vol. 11, No. 1

PROJECT AQUATIC

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Food Chains & Webs

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▼ ■ ● 72 **A Mobile Food Chain:** Construct your own food chain mobile from paper, string, and glue.

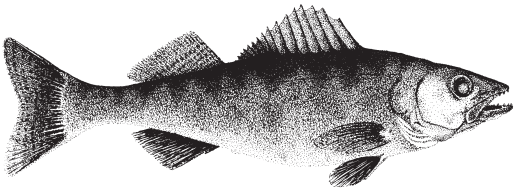
73 **ANSWER KEY FOR FOOD CHAINS AND WEBS**

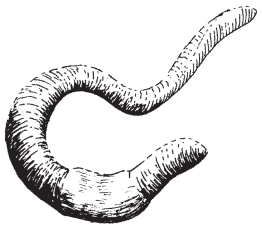
NAME _____

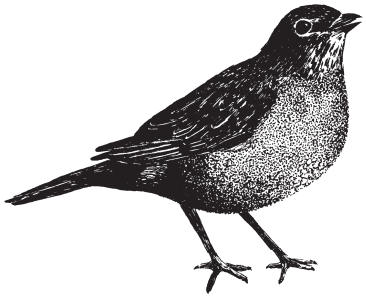
PREDATOR - PREY

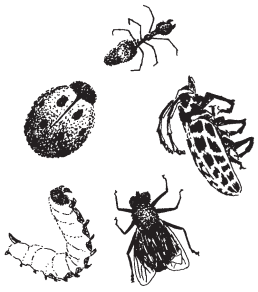
Directions: Animals which eat other animals for food are called **predators**. The animal which serves as food for other animals is called **prey**. Match the predator to its prey. Predators, in the wild, may use more than one species of prey.

PREDATOR	PREY
Coyote	Aquatic insects
Walleye	Deer
Robin	Prairie Dogs
Praying Mantis	Small fish
Red-tail Hawk	Gizzard Shad
Leopard Frog	Terrestrial insects
White Bass	Earth worms
Black-footed Ferret	Mice
Mountain Lion	Rabbits.









Communities of animals require both predators and prey animals to establish a balance in numbers.

Which should there be more of, predators or prey? Why?

Do predators control prey or are prey animals controlling predators?

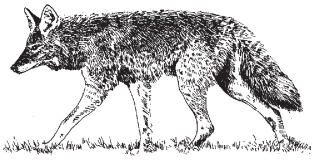
Many predators have special adaptations to assist them in capturing prey. Can you think of three such adaptations the predators in the above list have to assist them in their pursuit of prey?

FOOD PYRAMID BULLETIN BOARD

Directions: Use the following as a guideline for a class bulletin board and/or worksheet. Pictures from this booklet may be copied. Nature and outdoor magazines are other good sources for pictures. Students can complete the pictured food pyramid with appropriate animals. Encourage them to construct their own food pyramid.

A FOOD PYRAMID

Meat-eaters get their energy from animals.



Coyote

Burrowing Owl

Plant-eating animals get their energy from plants

Grasshopper

Clover

Plants use the sun's energy to make food.

PYRAMID POWER

NAME _____

Directions: As you have learned there are many kinds of food eaten by animals. Those that eat plants are called HERBIVORES, the meat-eaters are CARNIVORES, and those that eat both plants and meats are OMNIVORES. A food pyramid illustrates the placement and numbers of the various organisms found in a food chain. One starts with green plants which are consumed by plant-eaters who are eaten by meat-eaters. Fill in the various levels of the food pyramid with as many examples of each you can remember from your studies. A few examples have been given to help you start.

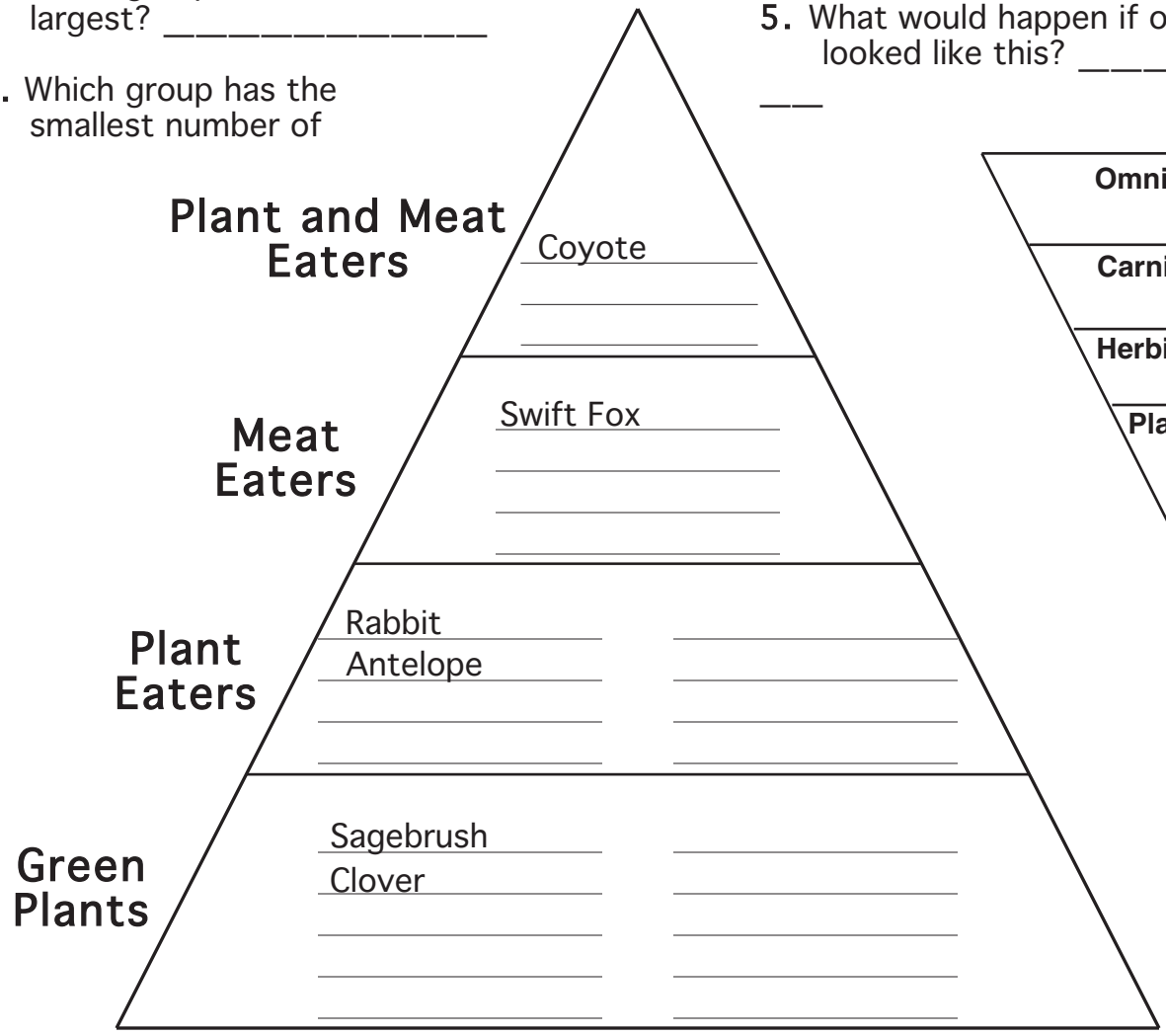
1. Why do you think there are more green plants than any animal group? _____
_

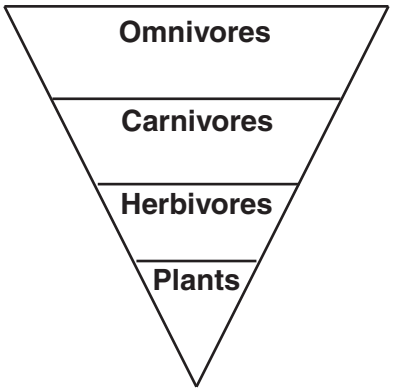
2. Which group of animals is the largest? _____

3. Which group has the smallest number of

4. What is another name for
   plant-eaters
   meat-eaters
   plant and meat-eaters

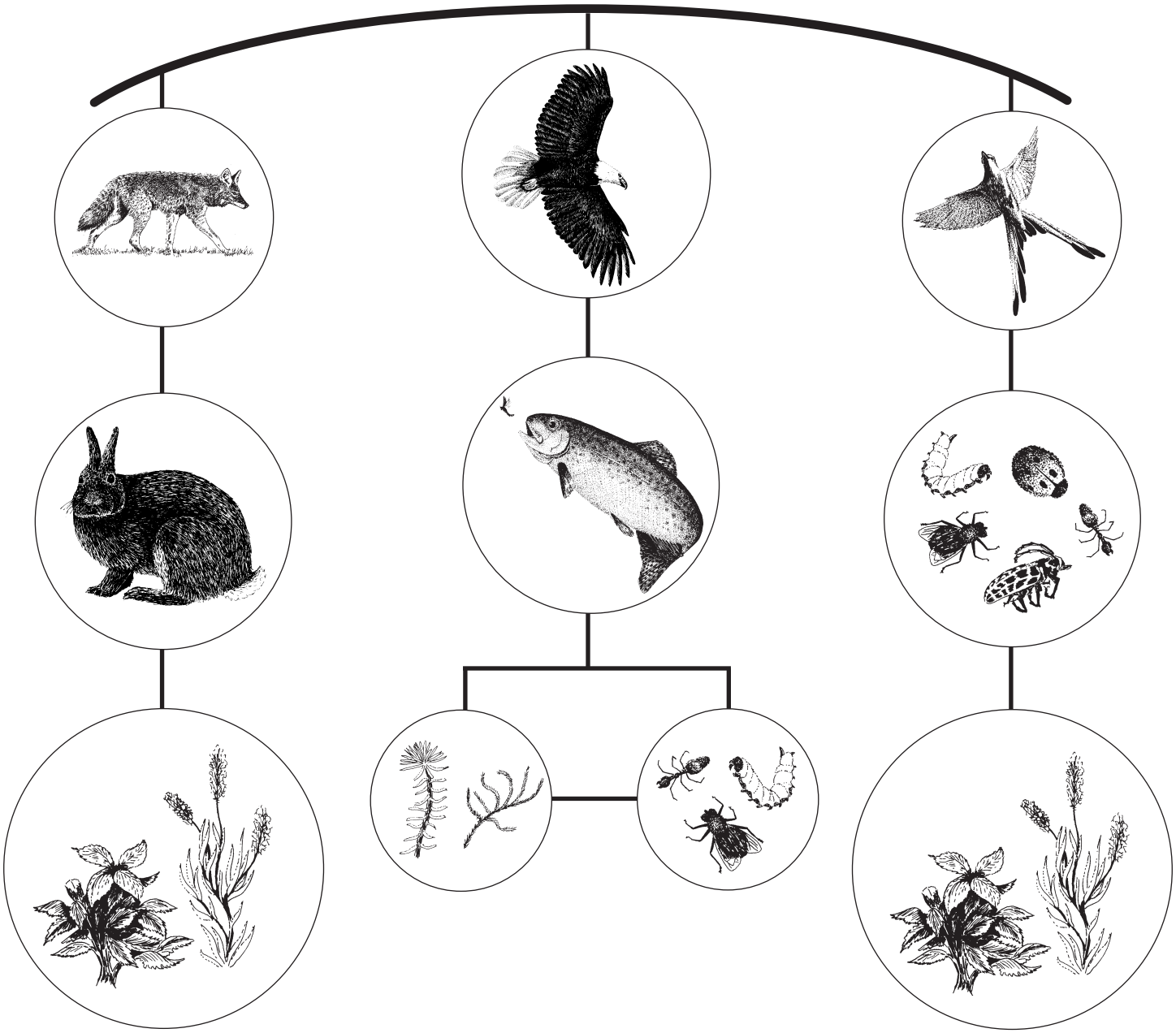
5. What would happen if our pyramid looked like this? _____
___





A MOBILE FOOD CHAIN

Directions: Living organisms, such as plants and animals, depend upon each other. A Food Chain shows this interdependence of one organism to another. Study the various illustrations of the plants and animals below, then construct your own food chain mobile from paper, string, glue, and the illustrations. Where would you fit into your food chain?



Key

Food Chains and Webs

PREDATOR - PREY PAGE 69
Possible Answers:

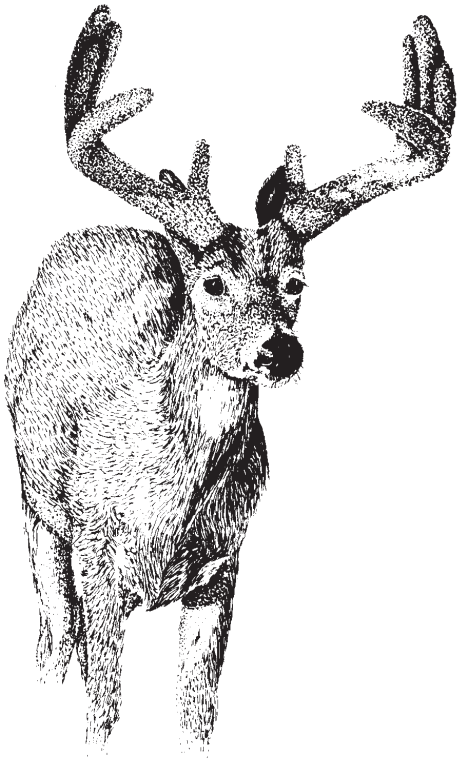
Coyote - Rabbits
Robin - Earthworms
Red-tail Hawk - Mice
White Bass - Gizzard shad
Mountain Lion - Deer
Walleye - Small fish
Praying Mantis - Terrestrial insects
Leopard Frog - Aquatic insects
Black-footed ferret - Prairie dogs

PYRAMID POWER - PAGE 71

1. Food source for the animals.
2. Plant Eaters
3. Plant and Meat Eaters (Omnivores)
4. Plant Eaters-Herbivores, Meat eaters-Carnivores, Plant and meat eaters-Omnivores
5. The Herbivores would soon consume all the plants, and the Carnivores would consume all the Herbivores; the food chain would break down, causing all the organisms to disappear.

Give a person a fish,
they can eat for a day.
Teach them to fish,
they can eat for a lifetime.

(Unknown)



Must we always teach our children with books? Let them look at the mountains and the stars up above, Let them look at the beauty of the waters and the trees and the flowers on earth. They will then begin to think, and to think, is the beginning of real education.

(David Polis)

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