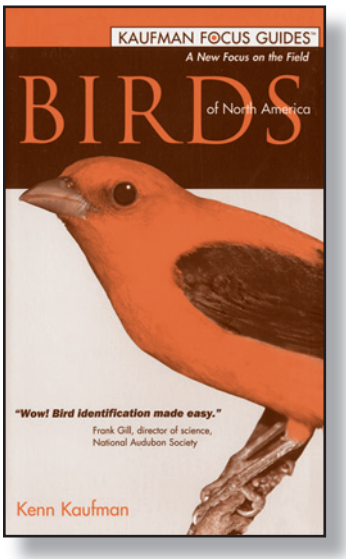
KAUFMAN FOCUS GUIDES

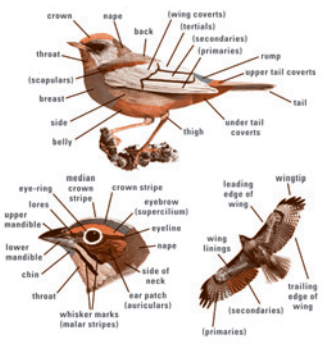
A Teacher's Guide

It is more important than ever to care for the environment and protect the creatures with which we share the earth. Equally important is introducing young people to the natural world and its inhabitants. Recent public opinion surveys indicate enthusiastic support for school programs in environmental, ecological, and wildlife education—programs that encourage students to study and appreciate the diversity of life in backyards and neighborhoods, as well as natural habitats. A primary goal of such programs is to encourage students to be committed to environmental conservation, with an understanding of the value of every animal and plant species.

Reflecting and encouraging respect for the natural world and its diverse creatures, the Kaufman Focus Guides provide an entirely new entry to an exploration of nature's wonders. They have quickly established themselves as the most useful, informative, and inviting of nature guides, especially for beginners. We hope that the following discussion topics, assignments, and activities—together with selected on-line resources—will assist you and your students in exploring some of the wonderful creatures that share our world. The Kaufman Focus Guides are as handy and reliable in the classroom as they are in the field. "By going out and pursuing natural history," Kaufman enthuses, "you are learning more about the world. You have a better understanding of the world around you if you can get some sense of how each species fits into it."

A lifelong naturalist and a legend among birders, Kenn Kaufman has perhaps done more than anyone else to spread the joys of birding, and he has extended his efforts to other species. He is field editor for *Audubon* magazine and a regular contributor to major birding magazines. Kaufman was the youngest person ever to receive the highest honor of the American Birding Association, and he has been voted to elective membership in the prestigious American Ornithologists' Union. In addition to the Focus Guides, his books include *Lives of North American Birds, Kingbird Highway,* and the *Peterson Field Guide to Advanced Birding.*





For Discussion

1. What birds are common in your community, state, and region? Which of them are you familiar with?
2. What threats to birds and their habitats exist in your community, state, and region? How might those threats be removed or alleviated? Why might it be important to protect bird species and their habitats?
3. The standard method of bird classification follows the Linnaean system, based upon genera and species. Kaufman's arrangement, as displayed in the Pictorial Table of Contents on pages 2–5, groups similar kinds of birds for comparison. What other methods of classification might be appropriate for the birds found in your neighborhood, state, and region?
4. What behaviors of birds common to your neighborhood or area are familiar to you? What behaviors are new or puzzling? How might we best interpret and understand the behavior of birds?
5. How can you use the range maps in *Birds of North America* to determine which birds are most likely to be seen in your community, state, and region?

Assignments

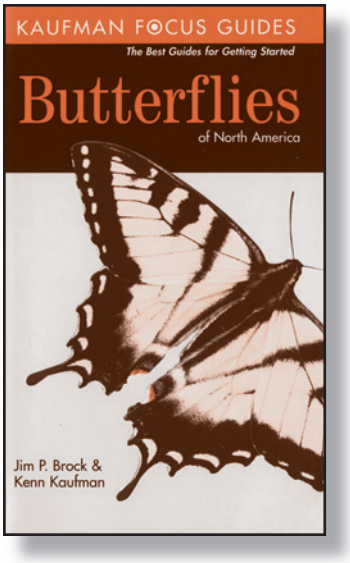
1. Select a threatened or endangered bird in North America. (Lists are available from county or state agencies and at http://endangered.fws.gov/.) Prepare a report on the threats to the species, its present status, and actions being taken to protect it.
2. Write a poem, story, or essay about your favorite bird.
3. Print out the checklist of birds for your state (from www.birder.com/birding/index.html) and use it as the basis for maintaining a personal observation notebook.
4. Select a migrating bird species, map out its migration route, and list the countries, states, and/or provinces that route crosses. Collate all the maps and reports to determine the number of countries, states, and/or provinces crossed by each species. Make enough copies of maps and lists so that each student has a complete set.
5. Look through *Birds of North America* to find a bird in your state or region that you would like to see in the wild. On the basis of the range maps, text, and illustrations, where would you go to see that bird, what habitat would you search, and what would you expect the bird to be doing when you found it? How would you recognize it and distinguish it from other bird species?

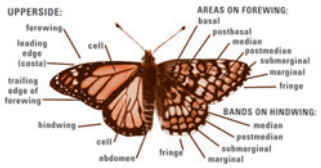
Activities

1. Place several bird feeders directly outside your classroom windows. Stock each with a different kind of birdseed. Maintain a daily log of species, including the number of birds observed and the frequency of visits at each feeder. Which kind of seed attracts which species of birds? (Find instructions for making simple bird feeders at http://ology.amnh.org/biodiversity/stufftodo/feedbirds.html.)

Activities *continued*

2. Using *Birds of North America* as a guide, make a chart of the species most common to your area or region and post it in a convenient location. Check off each species observed, note the date(s) and time(s) of day, briefly describe the weather, and initial it. Next to the chart, post a brief description and a picture of each species observed.
3. Invite an experienced bird watcher to share her or his expertise and knowledge with the class.
4. Visit a nearby nature reserve, park, or other habitat, preferably with an official guide or member of a local bird club. Take along local bird checklists (usually available from local agencies and bird clubs). Maintain notebooks throughout the visit—recording observations, information received, and any special circumstances—and be prepared to discuss your observations in class.
5. Participate in the Great Backyard Bird Count (visit www.birdsource.org/gbbc/index.html) by counting the birds you observed in your backyard and submitting the counts by the appropriate date.





For Discussion

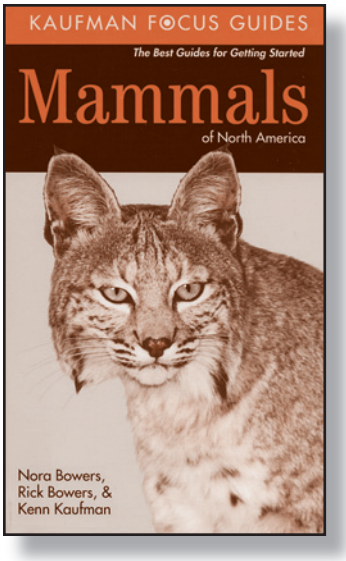
1. What butterflies are common in your community, state, and region? Which of them are familiar to you?
2. What are the threats to butterflies and their habitats in your area? How might those threats be removed or lessened? Why is it important to protect butterfly species and their habitats?
3. What characteristics are most helpful in identifying butterflies and distinguishing among the various species? How might we arrange those characteristics to be most useful for identification purposes?
4. How can you use the *Butterflies of North America* range maps to determine which butterflies are most likely to be seen in your community, state, and region?
5. Review the North American Butterfly Association's list of suggested names for a group of butterflies (www.naba.org/sightings/Multitudesofbutterflies.htm). Discuss, add class suggestions to the list, and vote for favorites. (And, of course, submit any new suggestions to NABA.)

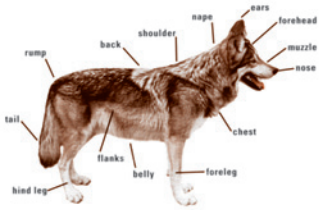
Assignments

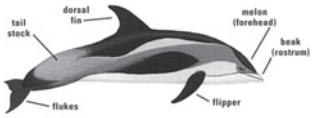
1. Maintain, over a specific time period, a daily log or field notebook of butterfly species, numbers of individual butterflies, and frequency of sightings in your backyard. A useful checklist of butterflies for your state is available at www.npwrc.usgs.gov/resource/distr/lepd/bflyusa/bflyusa.htm.
2. Select a threatened or endangered North American butterfly. (Lists are available from county or state agencies and at http://endangered.fws.gov/.) Prepare a report on the threats to the species, its present status, and actions being taken to protect it.
3. Write a poem, story, or essay about your favorite butterfly.
4. Look through *Butterflies of North America* to find a butterfly in your state or region that you would like to see in the wild. On the basis of the range maps, text, and illustrations, where would you go to see that butterfly, what habitat would you search, and what would you expect the butterfly to be doing when you found it? How would you recognize it and distinguish it from other butterfly species?
5. Assign to student teams—or have them select—different states. Each team should research some of the principal butterfly species of that state, along with their habitats, food, and behavior. (Go to www.butterflies.com/nabutterflies.htm for state lists.) Each team should then create a collage or map that includes pictures of the butterflies and their habitats.

Activities

1. Using *Butterflies of North America* as a guide, make a list of the butterfly species most common to your area or region and post it in a convenient location. Check off each species observed, note the date(s) and time(s) of day, briefly describe the weather, and initial. Next to the chart, post a brief description and a picture of each species observed.
2. Invite an experienced butterfly observer to speak to the class about butterflies and their place in the ecosystem.
3. Obtain or make a map of the various habitats (including streets and backyards) in your community or area. Identify the butterflies observed within each habitat and label the map accordingly. The map may then be displayed as an ongoing project.
4. Select one group of butterflies and, using the illustrations and text in the guide, compare the color patterns on the upper and lower sides of the wings of each species. How many of the species have the same upper- and lower-wing patterns? Can you think of reasons why different species within the group would show different colors or patterns on the upper side of the wings (visible when the wings are spread) and on the under side (visible when the wings are folded above the butterfly's back).
5. Contact the Xerces Society and the Nature Conservancy (addresses are given on page 17 of *Butterflies of North America*) concerning efforts to preserve butterfly habitats and diversity. The Web sites are, respectively, www.xerces.org/ and http://nature.org/.







For Discussion

1. What mammals are common in your community, state, and region? Which of them have you seen, and what were the circumstances? What mammals are seen in your neighborhood or near your school? What do these mammals have in common?
2. What are the main threats to mammals and their habitats in your community, state, or region? What can you do to remove or ease those threats? Which of those threats point up most dramatically the relationship between humans and other mammals?
3. The standard method of classifying mammals follows the Linnaean system, based upon genera and species. The groupings in *Mammals of North America* are based on other criteria, as displayed in the Pictorial Table of Contents on pages 2–5. What other methods of classification might be appropriate for the mammals found in your neighborhood, state, and region?
4. What habitats in your community and area (including your backyard) support mammals? What mammals are found in each type of habitat? What is the relationship between the habitats and the animals found in each?
5. What signs might we look for in order to find mammals? What signs of the presence of mammals have you seen?

Assignments

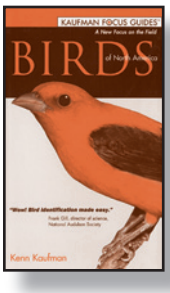
1. Maintain a sighting log or field notebook over the course of a year.
2. Select a threatened or endangered North American mammal. (Lists are available from county or state agencies and at http://endangered.fws.gov/.) Prepare a report on the threats to the species, its present status, and actions being taken to protect it.
3. Write a poem, story, or essay about your favorite mammal.
4. Select a mammal that you think is similar to yourself and write a description of that animal and an explanation of the similarities.
5. Look through *Mammals of North America* to find a mammal in your state or region that you would like to see in the wild. On the basis of the range maps, text, and illustrations, where would you go to see that mammal, what habitat would you search, and what would you expect the bird to be doing when you found it? How would you recognize it and distinguish it from other similar mammals?
6. Select a specific habitat (a backyard, park, vacant lot, or portion of a local nature preserve, for example), maintain a list of mammals observed there over a specific time period, and describe the aspects of the habitat that contribute to its carrying capacity.
7. Among the land mammals (the first thirteen groups in the book), there is a great variation in size, from mice and shrews to bears, elk, and bison. Studying the species descriptions and the sizes given, decide whether there are more species of large mammals or of small mammals. What might explain why there are more species in one size range than in others?

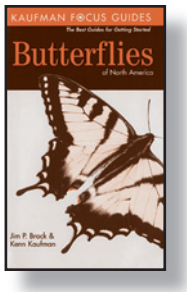
Activities

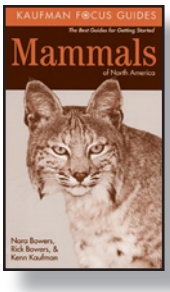
1. Create a display with articles, photographs, other illustrations, and ads from local, regional, and national newspapers and magazines having to do with mammals that live in your area.
2. Invite a wildlife biologist or other expert to talk to the class about mammals in your area, their role in the environment, and the importance of conservation.
3. Undertake one or more of the activities suggested by American Field Guide (www.pbs.org/americanfieldguide/teachers/mammals/mammals_unit.html).
4. Using *Mammals of North America* as a guide, make a list of the mammals most common to your area or region and post it in a convenient location. Check off each species observed, note the date(s) and time(s) of day, briefly describe the weather, and initial it. Next to the list, post a brief description and a picture of each species observed.
5. Visit a nearby nature reserve, park, or other habitat, preferably with an official guide or member of a local nature club. Maintain notebooks throughout the visit—recording observations, information received, and any special circumstances—and be prepared to discuss your observations in class.

On-line Resources

Your school and public librarians will be able to assist students in finding appropriate books about birds, butterflies, and mammals and their habitats. Among the numerous Web sites, the following are among the most informative and interesting. (Neither Houghton Mifflin nor any other individual or organization involved in the production of this teacher's guide is responsible for the content of these Web sites.)







Birds

www.americanbirding.org/ (American Birding Association)

www.aou.org/ (The American Ornithologists' Union)

www.audubon.org/ (National Audubon Society)

www.bcpl.net/~tross/by/backyard.html (Backyard Birding)

www.birder.com/birding/index.html (Birding on the Web. Includes checklists for all states and Canadian provinces)

www.birdsource.org/gbbc/index.html (The Great Backyard Bird Count)

www.partnersinflight.org/birdbib/ (Partners in Flight. A Guide to Bird Education Resources)

Butterflies

http://butterflywebsite.com/resource/index.cfm (The Butterfly Website)

www.mesc.usgs.gov/resources/education/butterfly/bfly_intro.asp (The USGS Children's Butterfly Site)

www.naba.org/ (North American Butterfly Association)

www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/bflyusa.htm (Butterflies of North America, the United States Geological Survey)

www.virtualmuseum.ca/Exhibitions/Butterflies/english/teach+games/index.html (Butterfly Watch)

Mammals

http://investigate.conservation.org/xp/IB (Conservation International's Investigate Biodiversity Web site)

www.mammalsociety.org/ (American Society of Mammalogists)

www.nationalgeographic.com/geoguide/wolves/index.html (A National Geographic Lesson Plan—"Saving a Species: A Family Affair")

www.natureserve.org/ (Nature Serve)

www.projectwild.org/ (Project Wild)

www.worldwildlife.org/windows/ (World Wildlife Fund)

General

www.enature.com/ (eNature.com, the National Wildlife Federation)

www.enc.org/ (ENC Online)

www.nrcs.usda.gov/feature/backyard/WildHab.html (Natural Resources Conservation Service)

www.nsta.org (National Science Teachers Association)

www.nwf.org (National Wildlife Federation)

www.pbs.org/teachersource/sci_tech.htm (PBS Teacher Source)

http://smithsonianeducation.org/ (Smithsonian Institute educational resources)

www.wildlifehc.org (Wildlife Habitat Council)

Birds of North America
Kenn Kaufman
ISBN 0-618-13219-8

Butterflies of North America
Jim P. Brock & Kenn Kaufman
ISBN 0-618-15312-8

Mammals of North America
Nora Bowers, Rick Bowers, & Kenn Kaufman
ISBN 0-618-15313-6

Additional copies of this teacher's guide are available at www.houghtonmifflinbooks.com/librarians/teacher.shtml

Houghton Mifflin, 222 Berkeley Street, Boston, MA 02116

Photography credits. Rick and Nora Bowers: Kenn Kaufman, birds on page 1, butterfly on page 2, wolf on page 3, cardinals on page 4, left-hand butterfly on page 4; Jim Brock: right-hand butterfly on page 4; Kenn Kaufman: dolphin on page 3; Anthony Mercieca: squirrel on page 4.

Written and produced by Hal Hager & Associates, Somerville, New Jersey

