

MERIT BADGE SERIES



REPTILE AND AMPHIBIAN STUDY



BOY SCOUTS OF AMERICA®

STEM-Based

BOY SCOUTS OF AMERICA
MERIT BADGE SERIES

REPTILE AND AMPHIBIAN STUDY



"Enhancing our youths' competitive edge through merit badges"



BOY SCOUTS OF AMERICA®



Reptile and Amphibian Study

1. Describe the identifying characteristics of six species of reptiles and four species of amphibians found in the United States. For any four of these, make sketches from your own observations or take photographs. Show markings, color patterns, or other characteristics that are important in the identification of each of the four species. Discuss the habits and habitats of all 10 species.
2. Discuss with your merit badge counselor the approximate number of species and general geographic distribution of reptiles and amphibians in the United States. Prepare a list of the most common species found in your local area or state.
3. Describe the main differences between
 - (a) Amphibians and reptiles
 - (b) Alligators and crocodiles
 - (c) Toads and frogs
 - (d) Salamanders and lizards
 - (e) Snakes and lizards
4. Explain how reptiles and amphibians are an important component of the natural environment. List four species that are officially protected by the federal government or by the state you live in, and tell why each is protected. List three species of reptiles and three species of amphibians found in your local area that are not protected. Discuss the food habits of all 10 species.
5. Describe how reptiles and amphibians reproduce.
6. From observation, describe how snakes move forward. Describe the functions of the muscles, ribs, and belly plates.
7. Describe in detail six venomous snakes and the one venomous lizard found in the United States. Describe their habits and geographic range. Tell what you should do in case of a bite by a venomous species.
8. Do ONE of the following:
 - (a) Maintain one or more reptiles or amphibians for at least a month. Record food accepted, eating methods, changes in coloration, shedding of skins, and general habits; or keep the eggs of a reptile from the time of laying until hatching; or keep the eggs of an amphibian from the time of laying until their transformation into tadpoles (frogs) or larvae (salamanders). Whichever you chose, keep records of and report to your counselor how you cared for your animal/eggs/larvae to include lighting, habitat, temperature and humidity maintenance, and any veterinary care requirements.
 - (b) Choose a reptile or amphibian that you can observe at a local zoo, aquarium, nature center, or other such exhibit (such as your classroom or school). Study the specimen weekly for a period of three months. At each visit, sketch the specimen in its captive habitat and note any changes

in its coloration, shedding of skins, and general habits and behavior. Discuss with your counselor how the animal you observed was cared for to include its housing and habitat, how the lighting, temperature, and humidity were maintained, and any veterinary care requirements.

Find out, either from information you locate on your own or by talking to the caretaker, what this species eats and what are its native habitat and home range, preferred climate, average life expectancy, and natural predators. Also identify any human-caused threats to its population and any laws that protect the species and its habitat. After the observation period, share what you have learned with your counselor.

9. Do TWO of the following:
 - (a) Identify at night three kinds of toads or frogs by their voices. Imitate the song of each for your counselor. Stalk each with a flashlight and discover how each sings and from where.
 - (b) Identify by sight eight species of reptiles or amphibians.
 - (c) Using visual aids, give a brief talk to a small group on three different reptiles and amphibians.
10. Tell five superstitions or false beliefs about reptiles and amphibians and give a correct explanation for each. Give seven examples of unusual behavior or other true facts about reptiles and amphibians.

NOTE: Scouts must not use venomous reptiles in fulfilling requirement 8a. Species listed by federal or state law as endangered, protected, or threatened must not be used as live specimens in completing requirement 8a. When you decide keeping your specimen is no longer possible or desired, be sure to find another appropriate home for it or return it to the wild at the location of capture. Check with your merit badge counselor for those instances where the return of these specimens would not be appropriate.

Under the Endangered Species Act of 1973, some plants and animals are, or may be, protected by federal law. The same ones and/or others may be protected by state law. Be sure that you do not collect protected species.

Your state may require that you purchase and carry a license to collect certain species. Check with the wildlife and fish and game officials in your state regarding species regulations before you begin to collect.

Reptile and Amphibian Study Resources

Scouting Literature

Reptiles and Amphibians pocket guide; *Bird Study, Fish and Wildlife Management, Fishing, Fly-Fishing, Hiking, Insect Study, Mammal Study*, and *Nature* merit badge pamphlets

Visit the Boy Scouts of America's official retail website at <http://www.scoutstuff.org> for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

Field Guides to North American Reptiles and Amphibians

Behler, John L., and F. Wayne King.

The Audubon Society Field Guide to North American Reptiles and Amphibians. Knopf, 1988.

Conant, Roger, and Joseph T. Collins.

A Field Guide to Reptiles and Amphibians of Eastern and Central North America, 4th ed. Houghton Mifflin, 1998.

Smith, Hobart M., and Edmund

D. Brodie Jr. *A Guide to Field Identification: Reptiles of North America*. Golden Guides from St. Martin's Press, 2014.

Stebbins, Robert C. *A Field Guide to Western Reptiles and Amphibians*, 3rd ed. Houghton Mifflin, 2003.

Tyning, Thomas F. *Stokes Guide to Amphibians and Reptiles*. Little, Brown, 1990.

Natural History Guides

Ernst, Carl H. *Venomous Reptiles of the United States, Canada, and Northern Mexico: Crotalus (Volume 2)*. Johns Hopkins University Press, 2011.

Ernst, Carl H., and Roger W. Barbour. *Snakes of Eastern North America*. George Mason University, 1989.

Ernst, Carl H., Roger W. Barbour, and Jeffery E. Lovich. *Turtles of the United States and Canada*, 2nd ed. Smithsonian, 2009.

Greene, Harry W. *Snakes: The Evolution of Mystery in Nature*. University of California Press, 2000.

Hofrichter, Robert. *Amphibians: The World of Frogs, Toads, Salamanders and Newts*. Firefly Books, 2000.

Petranka, James W. *Salamanders of the United States and Canada*. Smithsonian, 2010.

Ross, Charles A. *Crocodiles and Alligators*. Facts on File, 1989.

Zug, George R., Carl H. Ernst, et al. *Smithsonian Answer Book: Snakes*, 2nd ed. Smithsonian Books, 2015.

Caring for Reptiles and Amphibians in Captivity

Bartlett, R.D. *The 25 Best Reptile and Amphibian Pets*. Barron's Educational Series, 2006.

Frye, Fredric L. *A Practical Guide for Feeding Captive Reptiles*. Krieger Publishing, 1991.

Mattison, Christopher. *The Care of Reptiles and Amphibians in Captivity*. Blandford Press, 1987.

Rossi, John V. *Snakes of the United States and Canada: Keeping Them Healthy in Captivity*. Krieger, 1992.

Sounds of Frogs and Toads

These are records or tapes of the calls of a great many of our native frogs and toads.

Bogert, Charles M. *Sounds of North American Frogs: The Biological Significance of Voice in Frogs*. CD or download. Smithsonian Folkways Recordings, 1998. Website: <http://www.folkways.si.edu>.

Elliott, Lang. *The Frogs and Toads of North America: A Comprehensive Guide to Their Identification, Behavior, and Calls*. Book and CD. Houghton Mifflin Harcourt, 2009.

Kellogg, Peter P., and Arthur A. Allen. *Voices of the Night*. CD. Library of Natural Sounds, 1982. Cornell Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850. Website: <http://www.birds.cornell.edu>.

Organizations and Websites

American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024-5192
Website: <http://www.amnh.org>

American Society of Ichthyologists and Herpetologists
Website: <http://www.asih.org/jobs>

AZA FrogWatch USA Program
Association of Zoos and Aquariums
8403 Colesville Road, Suite 710
Silver Spring, MD 20910
Website: <http://www.aza.org/frogwatch>

National Fish and Wildlife Foundation
1133 15th St. NW, Suite 1100
Washington, DC 20005
Website: <http://www.nfwf.org>

National Geographic Society
P.O. Box 98199
Washington, DC 20090-8199
Website:
<http://www.nationalgeographic.com>

National Wildlife Federation
11100 Wildlife Center Drive
Reston, VA 20190
Website: <http://www.nwf.org>

North American Amphibian Monitoring Program
Website: <http://www.pwrc.usgs.gov/naamp>

Smithsonian National Zoological Park
Website: <http://nationalzoo.si.edu>

Society for the Study of Amphibians and Reptiles
Website: <http://www.ssarherps.org>

U.S. Fish and Wildlife Service
1849 C St., NW
Washington, DC 20240
Website: <http://www.fws.gov>