

MERIT BADGE SERIES



NATURE



BOY SCOUTS OF AMERICA®

STEM-Based

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"Enhancing our youths' competitive edge through merit badges"



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Note: In most cases, all specimens should be returned to the wild at the location of original capture after the requirements have been met. 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.

Requirements

Always check www.scouting.org for the latest requirements.

1. Name three ways in which plants are important to animals.
Name a plant that is protected in your state or region, and explain why it is at risk.
2. Name three ways in which animals are important to plants.
Name an animal that is protected in your state or region, and explain why it is at risk.
3. Explain the term “food chain.” Give an example of a four-step land food chain and a four-step water food chain.
4. Do all of the requirements in FIVE of the following fields:
 - (a) Birds
 - (1) In the field, identify eight species of birds.
 - (2) Make and set out a birdhouse OR a feeding station OR a birdbath. List what birds used it during a period of one month.
 - (b) Mammals
 - (1) In the field, identify three species of wild mammals.
 - (2) Make plaster casts of the tracks of a wild mammal.
 - (c) Reptiles and Amphibians
 - (1) Show that you can recognize the venomous snakes in your area.
 - (2) In the field, identify three species of reptiles or amphibians.
 - (3) Recognize one species of toad or frog by voice; OR identify one reptile or amphibian by eggs, den, burrow, or other signs.
 - (d) Insects and Spiders
 - (1) Collect and identify either in the field or through photographs 10 species of insects or spiders.*
 - (2) Hatch an insect from the pupa or cocoon; OR hatch adults from nymphs; OR keep larvae until they form pupae or cocoons; OR keep a colony of ants or bees through one season.

(e) Fish

- (1) Identify two species of fish native to your area.
- (2) Collect four kinds of animal food eaten by fish in the wild.

(f) Mollusks and Crustaceans

- (1) Identify five species of mollusks and crustaceans.
- (2) Collect, mount, and label six shells.

(g) Plants

- (1) In the field, identify 15 species of wild plants.
- (2) Do ONE of the following options:
 - (a) Collect and label the seeds of six plants OR the leaves of 12 plants.
 - (b) Photograph the seeds of six plants OR the leaves of 12 plants and create a catalog of your photos.

(h) Soils and Rocks

- (1) Collect and identify three different types of soil that represent soils high in sand, clay and humus.
- (2) Collect and identify five different types of rocks from your area.

5. Discuss the principle of Leave No Trace and how it relates to nature.

6. Do the following:

- (a) Explain what succession is to your counselor.
- (b) Visit a natural area (forest, grassland, meadow, water feature) and explain what stage of succession (both plant and animal) the area is in. Talk about what community/succession stages may have been there before and what community/succession stages may replace what you see now. Discuss what disturbances or changes have taken place in the past to create this landscape and what changes may occur in the future to change the landscape further.

*Photos may be taken with your own equipment or gathered from other sources.

Nature Resources

Scouting Literature

Conservation Handbook; Fieldbook; The Principles of Leave No Trace; Mammals pocket guide; *Reptiles and Amphibians* pocket guide; *Eastern Backyard Birds* pocket guide; *Western Backyard Birds* pocket guide; *Bugs and Slugs* pocket guide; *Edible Wild Plants* pocket guide; *Roadside Wildflowers* pocket guide; *Freshwater Fishes* pocket guide; *Trees* pocket guide; *Geology* pocket guide; *Animal Science, Backpacking, Bird Study, Camping, Canoeing, Environmental Science, Fish and Wildlife Management, Fishing, Fly-Fishing, Forestry, Gardening, Geology, Hiking, Insect Study, Mammal Study, Oceanography, Photography, Plant Science, Reptile and Amphibian Study, Soil and Water Conservation, Sustainability, and Wilderness Survival* merit badge pamphlets

With your parent's permission, visit the Boy Scouts of America's official retail website, www.scoutshop.org, for a complete listing of all merit badge pamphlets and other helpful Scouting materials and supplies.

Books

- Arnett, Ross H. *American Insects: A Handbook of the Insects of America North of Mexico*, 2nd ed. CRC Press, 2000.
- Behler, John. *Reptiles (The National Audubon Society First Field Guide)*. Scholastic Trade, 1999.
- Bland, Roger G., and H.E. Jaques. *How to Know the Insects*, 3rd ed. Waveland Press, 2010.
- Cassie, Brian. *Amphibians (The National Audubon Society First Field Guide)*. Scholastic Trade, 1999.
- Dance, S. Peter. *Shells*, 2nd ed. DK Adult, 2002.
- Dillon, Mike. *The Great Birdhouse Book*. Sterling Publications, 2000.
- Elpel, Thomas J. *Botany in a Day: The Patterns Method of Plant Identification*, 6th ed. Hops Press, 2013.
- Fichter, George S., and Phil Francis. *Fishing: A Guide to Fresh and Salt-Water Fishing*, St. Martin's Press, 2013.
- Griggs, Jack, ed. *All the Birds of North America: American Bird Conservancy's Field Guide*. Harper Collins, 2002.

- Harris, James G., and Melinda Woolf Harris. *Plant Identification Terminology: An Illustrated Glossary*, 2nd. ed. Spring Lake Publishers, 2001.
- Izaak Walton League of America. *Guide to Aquatic Insects and Crustaceans*. Stackpole Books, 2006.
- Levine, Lynn, and Martha Mitchell. *Mammal Tracks and Scat: Life-Size Tracking Guide*. Heartwood Press, 2008.
- MacDonald, David, ed. *The Encyclopedia of Mammals*. Facts on File, 2006.
- Rehder, Harald A. *National Audubon Society Field Guide to North American Seashells*. Knopf, 1981.
- Tarback, Edward J., et al. *Earth: An Introduction to Physical Geology*, 11th ed. Pearson, 2013.
- Wernert, Susan J., ed. *Reader's Digest North American Wildlife*. Reader's Digest, 2008.

Organizations, Periodicals, and Websites

Acorn Naturalists

Website: www.acornnaturalists.com

American Birding Association

Toll-free telephone: 800-850-2473

Website: www.aba.org

American Museum of Natural History

Central Park West at 79th Street

New York, NY 10024-5192

Website: www.amnh.org

Bee Culture Magazine

Website: www.beeculture.com

Discover Magazine

Website: www.discovermagazine.com

National Audubon Society

Website: www.audubon.org

National Fish and Wildlife Foundation

1133 15th St. NW, Suite 1000

Washington, DC 20005

Website: www.nfwf.org

National Geographic Society

Website:

www.nationalgeographic.com

National Park Service

Website: www.nps.gov

U.S. Fish and Wildlife Service

Website: www.fws.gov

World Wildlife Fund

Website: www.worldwildlife.org

Recordings of Bird Calls

Peterson, Roger Tory. *Field Guide to Bird Songs: Eastern/Central North America*. 1990. CD with 250 species.

Walton, Richard, and Robert Lawson. *Birding by Ear*. 1989.

———. *Birding by Ear: Western*. 1990.

———. *More Birding by Ear: Eastern and Central*. 1994.

Biological Supply Companies

BioQuip Products

Telephone: 310-667-8800

Website: www.bioquip.com

Carolina Biological Supply Company

Website: www.carolina.com