

# Southeastern Serpents

AGE LEVEL  
9-12

**Life Skill:** Critical thinking

**Project Skill:** Identifying snakes, studying their behavior, learning their role in nature

**Objective:** Research snakes that live in your area

**Success Indicator:** Participant chooses one local snake species to study and creates a profile of that animal

## Provisions Needed

- Snake field guide (see Suggested Reading)
- Paper or notebook
- Pen
- Field clothes (such as boots, long pants, gloves)
- Flashlight



## Trailhead

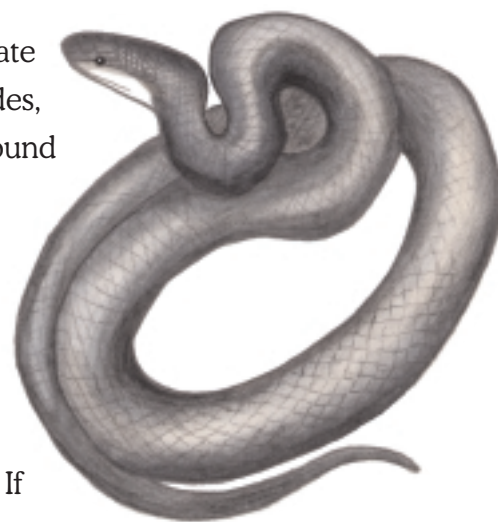
Have you ever seen a snake at the zoo or on a TV nature program? You may even have seen wild snakes in your own backyard, at camp, or when hiking. With nearly 2,700 kinds of snakes around the world, it's no surprise that people often encounter them. Many people are scared of snakes when they really don't need to be. Although there are as many as six species of venomous snakes in some areas of the southeastern United States, most snakes aren't dangerous to humans. Even venomous snakes are harmless as long as they are left alone. In addition, snakes provide important benefits to humans, such as helping to control the populations of mice, rats, and other animals that may damage crops and stored food.



## Trailblazing

Start your own "fact file" on snakes that live in your state or region. Study the range maps in the snake field guides, and talk with local experts to determine which snake species are found in your area. You might seek assistance from a **herpetologist**—a person trained in the study of reptiles and amphibians. Your county Cooperative Extension Service center or a regional office of your state's wildlife agency might have a staff person with this special knowledge. Choose one species that is most interesting to you from those that are found where you live. Find out all you can about that particular snake and how it lives. If possible, explore places where you might be likely to see and observe snakes. Be sure to follow the safety guidelines for exploring given in the Field Guide section. Answer as many of the following questions as possible.

start your own  
"fact file"  
on snakes



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**coral  
snake**

**king  
snake**

- *Scientific and common name*
- *Range*—Is this species found only where you live, or across the state or region?
- *Status*—Is this species common or rare? Is it protected by law in your state? If so, is it listed as “endangered,” “threatened,” or “of special concern”? Investigate the differences in these terms.
- *Physical description*—What is the average and maximum length of your snake? What is the background color of the snake? Does it have a pattern of different **colored markings** on its back or belly scales? Do the colors or markings change from the head to the tail? Do the colors and markings stay the same throughout the snake’s life or change as it gets older?
- *Habitat requirements*—Where can you usually expect to find your species of snake? Can it live in many different kinds of habitats or does it require a special habitat? What special adaptations (special body parts, senses, etc.) does it have (for climbing in trees, for instance, or living mostly in underground tunnels)?
- *Food and feeding habits*—What kind of prey does it eat, and how does it capture its food? Does it kill its prey by injecting venom or **constricting** (squeezing) it, or just by grabbing it and swallowing it whole? Does the snake eat a wide variety of prey, or does it focus on a specific type?
- *Method of reproduction*—Does this snake lay eggs (**oviparous**) or bear its young alive (**viviparous**)? How many young does it produce? If it lays eggs, where might it lay them and how long does it take for them to hatch?
- *Interaction and importance*—How does your snake interact with its environment? What kinds of animals might prey on snakes? Is this snake particularly helpful to humans? Why? Is your species of snake collected and sold for the pet trade or killed by humans out of **fear or superstition**? How can you help to educate people about the value and importance of snakes?

Record your findings in a chart, table, or other graphic representation. Think about the best way to arrange your information and observations so that it makes the most effective presentation. You might concentrate on a concern you think has become a widespread problem. For example, is there a particular species of non-venomous snake in your area that is commonly mistaken as a threat and harassed? Are certain snake populations in trouble because individuals of the species are often killed or illegally collected?

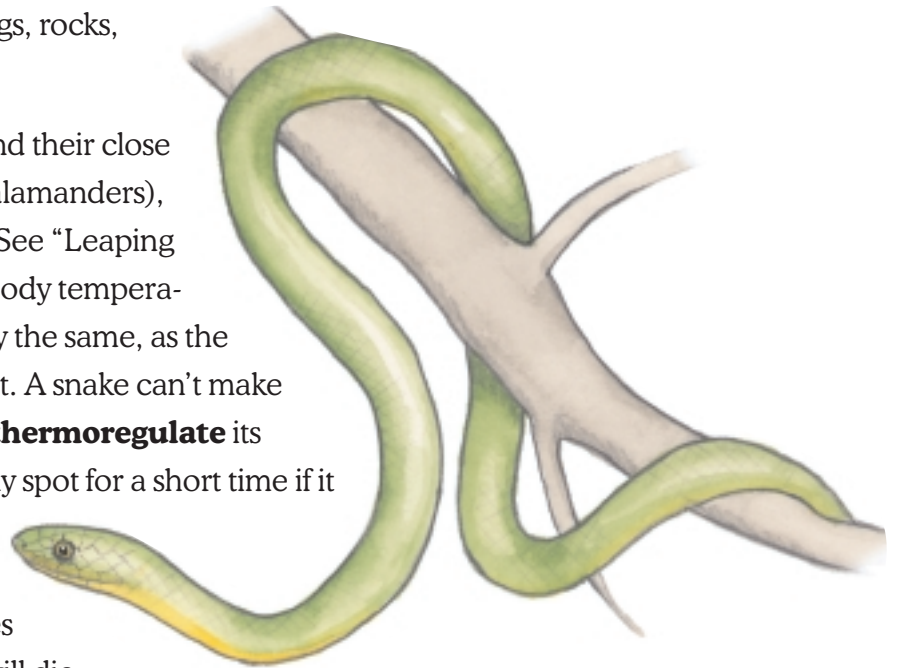
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## Field Guide

Snakes live in a wide range of **habitats** (the places where they find the necessary food, water, shelter, and breeding space to survive). Species that are found underground are called **fossorial**. Those that live in fresh water are **aquatic**; in the ocean, **marine**. Snakes that live in trees are **arboreal**. Those that live mostly on the ground or near the surface of the ground are **terrestrial**. Many species commonly seek refuge under surface cover like logs, rocks, leaves, and other debris.

**Reptiles** like snakes and lizards and their close cousins, the **amphibians** (frogs and salamanders), are **ectothermic** or “cold-blooded.” (See “Leaping Lizards” activity.) This means that the body temperature of the animal is the same, or nearly the same, as the air or water temperature surrounding it. A snake can’t make its own body heat, but it can adjust or **thermoregulate** its body temperature by basking in a sunny spot for a short time if it is cold or finding a shady, cooler spot if it gets too hot. Snakes that live in areas with freezing winter temperatures must hibernate underground or they will die.



All snakes are **carnivorous**, which means that they **eat other animals**. No snake eats plants. Since it has no hands, a snake must use its mouth and teeth to catch its prey. Snakes do not chew their food; they swallow it whole.

Never try to catch or handle a snake unless you are sure it is a **non-venomous** species. Learning color variations and patterns of markings is a good way to quickly tell the difference between a venomous and non-venomous species. Use a flashlight when walking at night, and do not walk or reach into areas where you cannot see clearly. A few non-venomous species of snakes in the southeastern United States **mimic**, or “copycat,” the appearance of the venomous coral snake (see page 2). Learn which non-venomous snakes look similar to the coral snake. Many non-venomous snakes may bite in self-defense, though their bite often is no worse than a brier scratch. All

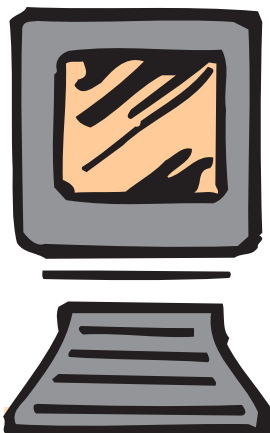
wild snakes are best left alone and admired from a distance, just like other wild animals.



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## Suggested Reading

- Ashton, Ray E., Jr., and Patricia Sawyer Ashton. *Handbook of Reptiles and Amphibians of Florida (Part One: The Snakes)*. Miami: Windward Publishing. 1988.
- Behler, John L., and F. Wayne King. *The Audubon Society Field Guide to North American Reptiles and Amphibians*. New York: Alfred A. Knopf. 1988.
- Conant, Roger. *Reptile and Amphibian Study (Merit Badge Series)*. Rev. ed. by J. Whitfield Gibbons. Irving, Texas: Boy Scouts of America. 1993.
- Conant, Roger, and Joseph T. Collins. *A Field Guide to Reptiles and Amphibians: Eastern and Central North America*. 3rd ed. Boston: Houghton Mifflin Co. 1998.
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- Dundee, Harold A., and Douglas A. Rossman. *The Amphibians and Reptiles of Louisiana*. Baton Rouge: Louisiana State University Press. 1989.
- Gibbons, Whit, and Patrick J. West, eds. *Snakes of Georgia and South Carolina*. Savannah River Ecology Laboratory—HerpOutreach Publication # 1. Athens, Ga.: University of Georgia. 1998.
- Martof, Bernard S., William M. Palmer, Joseph R. Bailey, and Julian R. Harrison, III. *Amphibians and Reptiles of the Carolinas and Virginia*. Chapel Hill, N.C.: University of North Carolina Press. 1980.
- Mitchell, Joseph C. *The Reptiles of Virginia*. Washington, D.C.: Smithsonian Institution Press. 1994.
- Mount, Robert H. *The Reptiles and Amphibians of Alabama*. Reprint ed. University of Alabama Press. 1996.
- Palmer, William M., and Alvin L. Braswell. *Reptiles of North Carolina*. Chapel Hill, N.C.: University of North Carolina Press. 1995.
- Smith, Hobart M., and Edmund D. Brodie, Jr. *A Golden Guide to Field Identification: Reptiles of North America*. New York: Golden Press. 1982.
- Wright, Albert Hazen, and Anna Allen Wright. *Handbook of Snakes of the United States and Canada*. New York: Comstock Publishing Associates. 1957.



## Internet Resources

- <http://www.parcplace.org>
- <http://www.kingsnake.com>
- <http://www.ncherps.org>
- <http://www.reptilesmagazine.com>
- <http://www.reptiletop50.com>
- <http://www/flmnh.ufl.edu/natsci/herpetology/fl-guide/onlineguide.htm>
- [http://www.bio.davidson.edu/Biology/herpcons/Herps\\_of\\_NC/herps\\_of\\_NC.html](http://www.bio.davidson.edu/Biology/herpcons/Herps_of_NC/herps_of_NC.html)
- <http://www.pitt.edu/~mcs2/herp/SoNA.html>
- [http://www.fda.gov/fdac/features/995\\_snakes.html](http://www.fda.gov/fdac/features/995_snakes.html)

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## The Extra Mile

Spend some time watching one or more snakes either at a zoo or at a nature center. Think about these questions as you observe. Do snakes move around as much as other animals? Why? Why don't they need to eat as often as birds or mammals? Why does a snake constantly flick its tongue? Why doesn't a snake ever close its eyes? What are the advantages and disadvantages of having a snake's body shape? How might a snake's color and pattern help protect it?



## Field Notes

### SHARE

- How many venomous and non-venomous snakes live in your area?
- What did the size, shape, or color of your chosen species of snake tell you about how it lives?
- If you were able to observe living snakes, what things did you notice? If you didn't understand a particular behavior, how did you find out what it meant?
- Which field guides were most useful and why?

### PROCESS

- What do you think this statement means? *Snakes have become a "successful" group of animals in nature.*
- How can observing an animal in its habitat help you learn more than if you read about it only? Is watching a captive animal a good substitute? Why or why not? What are the advantages and disadvantages of both methods?
- How can exploring an issue on your own help you understand more than if you are merely told about it?

### GENERALIZE

- Why do humans so often misunderstand snakes? What similarities do they share with other unpopular or feared kinds of animals?
- What other activities in your life require **critical thinking** (examining an issue and drawing conclusions about it)?
- What could you do at school or in a group to help others be less afraid of snakes?

### APPLY

- How can you use critical thinking skills in other parts of your life? Think of examples in your family life, your school activities, and play.