

Migrating Swans and Geese



STANDARD COURSE OF STUDY CORRELATIONS:

Science, Grade 4, Goal 1: The learner will make observations and conduct investigations to build an understanding of animal behavior and adaptation.

1.01 Observe and describe how all living and nonliving things affect the life of a particular animal including:

- Other animals.
- Plants.
- Weather.
- Climate.

1.02 Observe and record how animals of the same kind differ in some of their characteristics and discuss possible advantages and disadvantages of this variation.

1.03 Observe and discuss how behaviors and body structures help animals survive in a particular habitat.

1.04 Explain and discuss how humans and other animals can adapt their behavior to live in changing habitats.

1.05 Recognize that humans can understand themselves better by learning about other animals.

Science, Grade 6, Goal 7: The learner will conduct investigations and use technologies and information systems to build an understanding of population dynamics.

7.01 Describe ways in which organisms interact with each other and with non-living parts of the environment:

- Coexistence/Cooperation/Competition.
- Symbiosis.
- Mutual dependence.

7.03 Explain how changes in habitat may affect organisms.

7.05 Examine evidence that overpopulation by any species impacts the environment.

7.06 Investigate processes which, operating over long periods of time, have resulted in the diversity of plant and animal life present today:

- Natural selection.
- Adaptation.

INTRODUCTION TO LESSON: Students will research the tundra swan and snow goose and learn how their temporary home in North Carolina plays a part in its life cycle. They will write a news article that features an “interview” with a migratory bird and any challenges it faces in trying to survive. They will also read a lively children’s book about the birth of the Audubon Society and draw parallels to modern society.

BACKGROUND FOR TEACHER: North Carolina is a winter home for an array of migratory waterfowl, including thousands of snow geese and tundra swans. Our habitats are particularly valuable to the tundra swan population. More tundra swans winter here than in any other state on the East Coast, according to the N.C. Wildlife Resources Commission. Each fall, approximately 65,000 to 75,000 swans migrate to northeastern North Carolina to take advantage of the abundant food sources found in our lakes, sounds and farm fields.

MATERIALS

- ✦ Field guides that include tundra swans and snow geese
- ✦ Copies of the book *She’s Wearing a Dead Bird on Her Head*
- ✦ Map of North America for identifying migration routes (You can view automated sequences of the migration routes of many birds at: [http://www.birds.cornell.edu/birdflu/AIscience/maps/.](http://www.birds.cornell.edu/birdflu/AIscience/maps/))



Snow geese photograph by N.C. Division of Tourism, Film and Sports Development.

engage > Ask the class if they know that the coast is North Carolina's largest "international airport" for migratory birds. Lead a class discussion on the meaning of migration. Have the students brainstorm reasons that birds might migrate.

Show Chapter 1 of the video. Divide students into groups and have them speculate how an explorer today might describe his or her exploration of North Carolina. Have them discuss how a modern explorer's observations might compare to the sights John Lawson described in his "Voyage to Carolina" in 1709.

explore > **Show Chapter 2 of the video.** Hand out field guides. Assign groups to research either the tundra swan or snow goose. Have them study the species' migration and life cycle. Display the map of North America for students to use as they investigate migration of waterfowl. You might have them trace the migration routes on the map. Ask students to develop and share a list of key words on the board or chart paper.

Show Chapters 3 and 6 of the video. Afterward, have students discuss current issues surrounding migratory birds. Ask them what stake humans might have in ensuring healthy populations of waterfowl. Have them discuss whether too many animals in a population can be as detrimental to ecosystems as having too few.

explain > Have students write a news article featuring an "interview" with a species of migratory bird. Encourage them to be creative with their interview. The article should include a description or map of the bird's migratory route, an explanation of why it migrates to this location, a description of its life cycle and discussion of any factors that might threaten the species' survival.

elaborate > Have students read *She's Wearing a Dead Bird on Her Head*. Lead a class discussion using some of these questions: What is North Carolina's connection to the story? How might people make a difference with regard to migratory bird conservation?

evaluate > Read news reports to measure understanding of concepts. Use a checklist to assess students' comprehension of concepts during group discussions.

BEYOND THE CLASSROOM

Have students study backyard birds, take photographs and keep a journal describing their observations. Suggest that they investigate which of the birds are migratory.

Additional Resources:

Cornell Lab of Ornithology

- All About Birds • Cornell Lab of Ornithology • <http://www.birds.cornell.edu/AllAboutBirds/> • Bird species fact file.
- Bird Sleuth • <http://www.birds.cornell.edu/birdsleuth> • Curriculum that supports citizen science projects at Cornell Lab of Ornithology.

Tundra Swan Migratory Research in North Carolina •

http://www.ncwildlife.org/pg07_WildlifeSpeciesCon/pg7b6.htm#intro • Provides information on viewing, hunting, banding, migration tracking and current research.

Nature Notebook/Birds •

North Carolina Museum of Natural Sciences • <http://www.naturalsciences.org/funstuff/notebook/birds/index.html> • Bird profiles.

Tundra Swan Fact Sheet •

South Carolina Department of Natural Resources • <http://www.dnr.sc.gov/cwcs/pdf/Tundraswans.pdf>

Elphick, Jonathan (Ed.) 2007.

The Atlas of Bird Migration: Tracing the Journeys of the World's Birds. 2007. Buffalo, N.Y.: Firefly Books.

Leslie, Claire Walker. 1991.

Nature All Year Long. New York: Greenwillow Books. Introduction to the changing seasons east of the Mississippi, including information about birds that migrate.

National Wildlife Refuges

in North Carolina that host large numbers of migratory waterfowl:

- Pocosin Lakes NWR • <http://www.fws.gov/pocosinlakes/>
- Mattamuskeet National NWR • <http://www.mattamuskeet.org/birds/birds.htm>