

Volunteer Teaching Outline: Birds on the Wing

Some birds migrate thousands of miles to find the food and shelter they need in winter, but other birds stay right here through the cold months. Which birds migrate and which birds stay? Birds that migrate face many challenges on their journeys, and those that stay here must cope with cold weather, shorter days, and a diminished food supply. All birds must survive this critical stage of their life cycles in order to raise families in the spring.

UNIT VOCABULARY

Migration	Range
Hazard	Habitat
Wintering	Resident
Flight calls	Cache

SUGGESTED OUTDOOR ACTIVITIES

Stick Around Skits
Migration Tag
Winter Bird Watching
Let's Be Chickadees
Journal Activity
Closing Thoughts

BOOKS FOR KIDS

Gans, Roma and Paul Mirocha (Illustrator), *How Do Birds Find Their Way?* (Let's Read-and-Find-Out Science 2), HarperTrophy, 1996. (Informational; Age 4-8; Grade K-4)
Lerner, Carol, *On the Wing*, Harper Collins Publishing, 2001. (Informational; Age 8 and up; Grade 3 and up)
Simon, Seymour and Elsa Warnick (Illustrator), *Ride the Wind: Airborne Journeys of Animals and Plants*, Browndeer Press, 1997. (Informational; Grade 3-6)
Weidensaul, Scott, *Living on the Wind: Across the Hemisphere with Migratory Birds*, North Point Press, New York, NY, 1999. (Informational)

THIS MONTH'S ACTIVITIES

Puppet Show: consider the different challenges faced by resident and migratory birds in winter.

Food for Thought: model the connection between diet and migration.

Migration Game: model a bird's migration journey and challenges faced along the way.

Mapping Migration: use maps to plot migration routes and measure distances traveled by different migratory birds.

Upper Grades Challenge: Reading Range Maps: use information from bird range maps to determine where some birds would be found in different seasons.

Stick Around Skits: model winter survival strategies used by birds that spend winter in northern regions.

Migration Tag: model the effect of environmental obstacles on migration success.

Winter Bird Watching: make observations about birds and their behavior outside or at a feeder.

Let's Be Chickadees: model chickadee behavior in fall, storing seeds in caches for the winter.

Journal Activity: make maps or write stories about a bird that stays or migrates in winter.

Closing Thoughts: reflect on new learning about bird migration and winter survival.



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BIRDS ON THE WING ALIGNMENT WITH NEXT GENERATION SCIENCE STANDARDS

The activities in this unit help children understand the basic concepts in the Disciplinary Core Ideas listed here. You can use the following list as a guide for lesson planning. These Disciplinary Core Ideas are taken from Grade Band Endpoints in *A Framework for K-12 Science Education*. Additionally, our activities give children opportunities to engage in many of the Science and Engineering Practices and reflect on the Crosscutting Concepts as identified in the Next Generation Science Standards.

Grades K-2 Disciplinary Core Ideas

- **LS1C:** All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. p.147
- **LS1D:** Animals have body parts that capture and convey different kinds of information needed for growth and survival – for example, eyes for light, ears for sounds, and skin for temperature or touch. Animals respond to these inputs with behaviors that help them survive (e.g. find food, run from a predator). p.149
- **LS2A:** Animals depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. Animals depend on plants or other animals for food. They use their senses to find food and water and their body parts to gather, catch, eat, and chew the food. p.151
- **LS3A:** Organisms have characteristics that can be similar or different. Young animals are very much, but not exactly, like their parents and also resemble other animals of the same kind. p.158
- **LS4D:** There are many different kinds of living things in any area, and they exist in different places on land and in water. p.166

Grades 3-5 Disciplinary Core Ideas

- **LS1C:** Animals and plants alike generally need to take in air and water, animals must take in food, and plants need light and minerals; anaerobic life, such as bacteria in the gut, functions without air. Food provides animals with the materials they need for body repair and growth, is digested to release energy to maintain body warmth and for motion. p.148
- **LS1D:** Different sense receptors are specialized for particular kinds of information, which may then be processed and integrated by an animal’s brain, with some information stored as memories. Animals are able to use their perceptions and memories to guide their actions. Some responses to information are instinctive – that is, animals’ brains are organized so that they do not have to think about how to respond to certain stimuli. p.149
- **LS2A:** Organisms can survive only in environments in which their particular needs are met. p.151-152
- **LS3A:** Many characteristics of organisms are inherited from their parents. Other characteristics result from individuals’ interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. p.158
- **LS4D:** Scientists have identified and classified many plants and animals. Populations of organisms live in a variety of habitats, and change in those habitats affects the organisms living there. p.167

Grades 6-8 Disciplinary Core Ideas

- **LS2A:** Organisms and populations of organisms are dependent on their environmental interactions both with other living things and with nonliving factors. Growth of organisms and population increases are limited by access to resources. In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. p.152
- **LS4D:** Biodiversity is the wide range of existing life forms that have adapted to the variety of conditions on Earth, from terrestrial to marine ecosystems. p.167

BIRDS ON THE WING ALIGNMENT WITH COMMON CORE STANDARDS

In addition to science content, activities in this unit also can help students to practice the following mathematics and language arts concepts. The Common Core Standards listed here are in addition to the ones that our activities typically address, as listed in the Four Winds document, *The Nature Program: Alignment with Learning Standards*.

Grades K-2 Common Core Standards

- **Mathematics Standard K.CC:** Count to 100 by ones and tens. Understand the relationship between numbers and quantities; connect counting to cardinality. Count to answer “how many?” questions about as many as 20 things.

Grades 3-5 Common Core Standards

- **Reading for Informational Text Standard 7:** Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding.

