

Bird's-eye View

Adapted with permission from Quinlan, "Alaska Wildlife Week."

Grade Level: upper middle school/ high school

Duration: several 30-minute class periods

Skills: visualization, communication, vocabulary, and discussion; using technology (with additional activities)

Subjects: science, social studies, geography, fine arts; language arts and technology (with additional activities)

Concepts:

- During each year of their lives, most shorebirds migrate between habitats located in different geographic areas.
- Arctic-nesting shorebirds undertake some of the longest migrations of any vertebrates.
- Migratory shorebirds depend on at least three habitats: breeding, nonbreeding, and migratory stopover sites.
- Some shorebirds concentrate in great numbers at their stopover sites.

Vocabulary

- migration
- stopover site
- geography
- climate
- breeding grounds
- landmarks
- habitat
- flock

Overview

Students imagine that they are migratory shorebirds and design an illustration that conveys the length and difficulty of the trip, as well as the landmarks, habitats, and stopover sites they pass over along their way.

Objectives

After this activity, students will be able to:

- List at least three important landmarks to a migrating shorebird.
- Write a paragraph describing the migration of one type of shorebird, including where it starts and ends its journey, where it stops to feed, what it eats along the way, and the important landmarks it passes.
- Translate the paragraph into a picture that depicts the migration of the same shorebird.

Materials

- A roll of butcher paper
- One large sheet of drawing paper per student
- Drawing materials like charcoal and colored pencils, markers, crayons, or paints
- Shorebird research materials, including the Shorebird Profiles (found in the Appendix) and an assortment of resource books (located in the Appendix)

Introduction

There are approximately 49 different species of shorebirds throughout North America. Most shorebirds spend their summers in the northern areas of the United States and Canada and *migrate* to the southern United States, Central America, and South America to spend their winters where food is available. The White-rumped Sandpiper, for example, migrates each year from the Arctic Circle to the southernmost tip of South America and back--a round trip of 20,000 miles every year! However, not all shorebirds migrate such long distances. Some, like the American Avocet, breed in the extreme north and winter in the southern part of the United States.

In North America, shorebirds use three primary *migration routes* (flyways) that connect their *breeding grounds* in the north to their *wintering grounds* in the south. Each of these flyways is characterized by unique physical features, wetland habitats, and stopover sites. To learn more about the spectacular migrations of shorebirds, read *Magnificent Shorebird Migration* found in the *Shorebird Primer*.

Procedure

1. Ask students to remember what the world looks like from the view of an airplane, the top of a tall building, or the ridge of a mountain. Have they ever looked down on the tops of trees, clouds, a river, or a coastline? What was the purpose of their journeys? Did they look forward with anticipation to the sight of their destination? Did they anticipate a change in climate and geography?
2. Ask them to imagine what the world looks like to a migrating shorebird in the spring or in the fall. How high does the shorebird fly? What kinds of landmarks might be important to a shorebird? What kind of weather would it have to endure? What would it see? Make a class list of the answers your students provide.

Possible responses: the shoreline; estuaries, river deltas, or other types of wetlands; receding ice or snow; other shorebirds flying, landing, feeding, or roosting together, perhaps in large flocks; treetops; the height of the tide; storms; clouds; warm sunshine; people with binoculars; towns and cities; bare plowed fields where there used to be a marsh

3. Ask the students to select a species of shorebird for this activity. Have them learn all they can about the bird they select. What does it eat? Where does it breed? What flyway does it take to its nonbreeding grounds? Where does it spend its winters?
4. Ask the students to draw or paint a picture of the world from the viewpoint of the migrating shorebird. Encourage them to accurately portray the habitat the bird might pass over, the length of the journey, the altitude the bird is flying, and the feel of the air.
5. Have them use the butcher paper to sketch a layout of their picture and practice drawing in aerial perspective. When they are satisfied with their mock-up, they can transfer their ideas onto the final drawing paper.

Additional Activities



Cultural Connection

Students add information related to the cultural groups along the shorebirds' migration routes.

Shorebird Migration Stories

Ask students to write a story describing their shorebird's migration to accompany their drawing. What did it see and hear along the way? Where did it stop to rest and feed? What was it like at this stopover site? How long was the journey? How did it feel to finally reach the breeding ground?

Shorebird Migration Play

As a cooperative project, have the class select one of the shorebird migration stories and turn it into a dramatic play. Divide the class into teams to prepare costumes, design the set, write the dialogue, and act out the parts. Videotape the production and design special invitations to a live performance.

