



# Migration Obstacle Course

## Overview

Students will discover the obstacles birds face during their amazing migratory journeys.

## California Science Standards

Grade K: 2.a.-L.S.

Grade 1: 2.a.b.-L.S.

Grade 2: 2.b.-L.S.

Grade 3: 2.a.c.d.-L.S.

## Oregon Science Standards

Grades 2-4: 2L.1

Grades 5-6: 2L.2

## National Standards

Content Standard C:  
Life Sciences

## Materials Included

- \* Student Journal
- \* *Life of Birds* DVD
- \* *Migration Obstacle Course Layout*

## Materials Needed

- \* Dry erase board
- \* 4 chairs
- \* Cardboard boxes
- \* Check out separate materials kit

## Space Needed

- \* Large space in a safe location the size of a school gym

## Activity Time

Preparation: 20 min.

Activity Time: 35 min.

## Best Season

Fall/Spring

## Vocabulary

- \* Migration

**Grade Level:** K-8th (O.S.S. 2nd-6th) (C.S.S. K-3rd)

## Learner Objectives

Student will:

- Define migration
- List potential hazards that birds face during migration
- Identify ways to help reduce negative impacts on migrating birds

## Background Information

Birds undertake incredible seasonal journeys of various lengths, a phenomenon called bird migration. The most common migration pattern of birds is demonstrated by migratory land birds such as warblers, sparrows, and hawks. During the spring, most of these birds migrate northward to their breeding grounds often within the temperate or Arctic northern hemisphere. In the fall, they migrate southward to spend their winters in warmer climates such as the tropics where food is plentiful. Other birds such as some songbirds, waterfowl and seabirds tend to migrate to areas far enough to escape the frozen waters (e.g., lower elevations or further to sea).

One of the most incredible migratory journeys is accomplished by the Arctic Tern. This extraordinary bird travels 15,534 miles from the Arctic breeding grounds to the Antarctic non-breeding grounds. Two birds species found in the Klamath Basin—the Purple Martin and the Snow Goose—also display incredible migration journeys. The Purple Martin is a neotropical migrant and spends its summer nesting in caves at Lava Beds National Monument. During the fall, the Purple Martin migrates as far as the lowlands of southern Brazil. The Snow Goose is a winter resident of Lava Beds National Monument and migrates far north to Arctic Circle during the spring migration to its breeding grounds.

Birds such as the Arctic Tern, Purple Martin, and Snow Goose all take mind-boggling expeditions, but this does not come without a cost. Migration can be full of dangers many of which could be detrimental to a bird's survival. For instance, many migratory birds need a place to rest during the long journeys (stop over sites), but if there are no forested areas, wetlands, or grasslands for them to rest and gain food and shelter, they do not have enough energy to complete the migration.

# Lesson Plan-Part I

## Getting Ready!

1. Read background information.
2. Determine a site large enough for the Obstacle Course.
3. Set-up the Obstacle Course using materials & layout.
4. Make copies of *Student Journal: Migration Obstacles* sheets.

## Discuss!

1. Ask students if they know what migration is. Give students some time to think about it before giving the correct answer.
2. Define migration (see right panel).
3. Show students the map and point out how far different species migrate. *The Snow Goose migrates from the Arctic Circle down to Tule Lake for the winter. The Purple Martin migrates from Lava Beds National Monument all the way down to Brazil. The Arctic Tern travels 15,534 miles between the poles every year.*
4. Ask students if they know how it feels to travel in a car for more than two hours. *If you had a perfectly straight road from the North Pole to the South Pole, it would take you 280 hours, or 11 1/2, days in the car driving at highway speed without stopping, eating, or drinking.*
5. Ask students what obstacles they think birds would encounter during their migration.
6. List obstacles on the board. (see following page)
7. Discuss that a bird's life can be full of dangers, many of which are presented in the obstacle course. *Not all birds will encounter all of these obstacles every day, as they migrate, they travel long distances and are more likely to face challenges. Also, did you know that birds have to do this trip twice a year? One way is flying south for the winter, and the other is flying north for the spring and summer. The biggest threat is habitat loss. Many migrating birds need a place to rest during their long journeys (stopovers), and if there is no location for them to do so, they do not have enough energy for migration.*
8. Ask students if they know how birds migrate and know which way to go (see right panel).

## Play the Game!

1. Let students know they will discover bird migration through a migration obstacle course.
2. Explain the RULES of the game (see following page).
3. As the teacher, be the "example bird" that goes through the obstacle course conquering all obstacles. 1. Begin at the start line (represented by Frisbees), 2. Move under "windows," (Saran wrap), 3. Step over the river of "poison," (cards) 4. Jump over

### What is migration?

Migration is when a living thing travels from one place to another, usually to find food, shelter, or a mate and a place to breed.

### "Life of Birds"

To introduce bird migration, show students the Migration section of the "Life of Birds."

### How do birds migrate?



- \*They follow features such as rivers, coastlines, and mountain ranges.
- \*They respond to the earth's magnetic fields with very tiny bits of metal in their heads.
- \*They observe stars at night.
- \*They use the sun for guidance.

## Lesson Plan-Part II

- “powerlines” (rope) 5. Run around buildings (cardboard boxes), 6. Fully stop before the road (black plastic) and walk slowly across, and 7. Cross the finish line and successfully migrate! Don’t get eaten by the cat (another student with a headband) on your way!
3. As the teacher, you can act as a cat or choose a student to be. The cat’s duty is to try to catch the “birds” at the end of the obstacle course. Once a “bird” is caught by the cat it fails to migrate. Set-up wildlife refuges with rope or tape along the obstacle course to represent safe haven for migratory birds.
  4. Have one or two students go through at a time (depending on time constraints). This migration is from south to north.
  5. Once they reach the end, have them line up lengthwise to the course to watch and cheer on the other students. (If a student fails an obstacle they do not survive migration, step to the side).
  6. Review survivorship and times. How many made it? What percent did not survive?
  7. Have students migrate again from north to south. They have nested and successfully fledged young. Students who did not survive the first migration may return as young migrants.

### Follow-up!

1. Review survivorships and times again. How many made it?
2. Give students Student Journal sheets.
3. Go over as a class or divide students into pairs and answer the *Student Journal: Migration Obstacles* questions.
4. Ask students what would happen to the slower birds. *The slower birds would have the last choice in food, territory, and mates. Some have to fight for these things. Do you think you’d have the energy to fight after migrating? If you arrived too late, you may not survive at all!*
5. Ask students, besides the obstacles you just experienced, do you think there are others out there? What else do you think makes it hard for birds to survive migration? Some possible answers: *Confused by bright lights (about their direction), fly into bridges and towers, die from eating foods with pesticides, pushed out by exotic species (e.g. European Starlings, House Sparrows), or eaten by natural predators (e.g. raptors).*
6. Which obstacle(s) that you experienced do humans play a role in? *All of them!*
7. What can you do to help? Have students brainstorm actions they can take. *Some possible answers: keep cats indoors, plant bird habitat, clean up polluted or littered habitat, don’t use pesticides on lawns, remove exotic plants, turn off lights at night, etc.*

### GAME RULES!

1. **PRETEND:** You have to pretend you’re a bird all the way through by flapping your wings and vocalizing.
2. **DON’T TOUCH:** If you touch any of the obstacles, you instantly fail to migrate! Stand to the side.
3. **STAY IN BOUNDS:** If you go out of bounds, you instantly fail to migrate! Step to the side.
4. **CHEER:** The students waiting in line can urge the birds through the course by clapping and moderate cheering—preferably in bird-like sounds.

### Obstacles Birds Face During Migration



- \*Habitat Loss
- \*Power lines
- \*Development
- \*Predators (cats)
- \*Pollution
- \*Pesticides
- \*Bright Lights
- \*Exotic Species
- \*Windows
- \*Cell Phone towers
- \*Wind Turbines

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# Migration Obstacle Course Materials

*Be sure to check out the Migration Obstacle Course Materials kit.  
Use the following materials & layout on next page.*

## ***For Entire Obstacle Course***

- \* Large space for the obstacle course, in a safe location the size of a school gym
- \* Stopwatch or wristwatch (optional)
- \* Start line & finish line markers
- \* Dry erase board and marker
- \* Map

## ***For Windows***

- \* Saran Wrap
- \* 2 chairs or something to attach Saran wrap between

## ***For Power Lines***

- \* Heavy string (2 pieces)
- \* 2 chairs or something to attach them between

## ***For Long Jump of Polluted Water***

- \* Pictures of toxins & poison on the ground representing a river

## ***For City of Buildings***

- \* Many cardboard boxes or kit boxes

## ***For Cat***

- \* Cat head band or necklace (optional)

## ***For Wildlife Refuge***





- \* Designate an area for wildlife refuges (a safe area where the cat cannot enter)

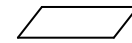

## ***For Road***

- \* One black plastic strip or trash bag with yellow road lines marked on it

# Migration Obstacle Course Layout

## KEY

Saran Wrap   
 Power Lines   
 Polluted Water   
 Wildlife Refuge 

Toxic Sheets   
 Boundary Cones/Ropes   
 Buildings 