

# Migrators



## Learning Objectives

Students will:

- Learn that birds that do not migrate have many ways of adapting to winter
- Learn that, in most cases, migration is a strategy to survive winter.
- Become familiar with several backyard bird species and their migration routes.



## Method

Students discuss various ways in which birds have adapted to winter, with emphasis on migration. Students will choose several migrators common to their area, then draw maps or murals tracing the migration routes.



## Materials

- Maps of the major "flyways" of North America (see [www.atlas.gc.ca](http://www.atlas.gc.ca))
- Field guides and bird books

## Background

Many species of birds migrate; that is, they travel to a different habitat with a warmer climate to escape winter. Some bird migrations are quite short; others are amazing odysseys, such as that of the world's champion migrator, the Arctic tern. This gull-like water bird flies from the Arctic to Antarctica, a round trip that is farther than the distance around the planet — about 40,000 km.

Migrations are grueling, particularly for small birds. Only half of the songbirds that attempt the trip each year will return. To survive their migrations, birds depend on a number of critical stopping and "refueling" habitats along the way. Many of these habitats are being disrupted by humans. This means that tired, hungry birds may not find enough food for the remainder of the trip. Although migration is difficult, birds with specialized needs have no choice but to head south. Once the ice forms, long-legged herons that fish in shallow water would die of hunger. So would flycatchers when their favourite insect snacks disappear. Hawks can no longer spot small mammals scurrying on the ground once a blanket of snow covers everything.

Different bird species follow different routes to, and from, their nesting and wintering ranges. Most North American birds fly south along one of four major "flyways." You could say these routes are bird versions of superhighways! The most popular flyway runs along the Mississippi River; others follow the Atlantic and Pacific coasts and down the Rocky Mountains.

Some species migrate alone; others (such as most large water birds) fly in flocks; and many migrate at night! Scientists believe that birds rely on the sun and stars to guide them. However, they may also travel in cloudy weather, which means they may also tune into the Earth's magnetic field to orient themselves.

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[CanadianWildlifeFederation.ca/Education](http://CanadianWildlifeFederation.ca/Education)

Scientists estimate that about 15 percent of all bird species change homes seasonally. Many birds stay put, including jays, nuthatches, chickadees, cardinals, and woodpeckers. However, most small songbirds, such as thrushes, warblers, robins, and bluebirds, head south before the snow flies.

Birds that stick around all winter have interesting ways to survive. We humans bundle up in warm clothes and so do most overwintering birds by growing 50 percent more feathers! Here are some other ways birds keep cozy:

- Grouse burrow into the snow.
- Chickadees, woodpeckers, and jays cache food then dig them out when times are tough.
- Birds soak up the wintry sun's rays, then ruffle their feathers to trap heat.
- Ptarmigans grow extra feathers between their toes to help them walk on snow (like snowshoes).
- Ravens and gyrfalcons lie down and cover their legs and feet with their feathery breasts.
- The feathered nares or nostrils of birds such as the raven help prevent heat and water loss.

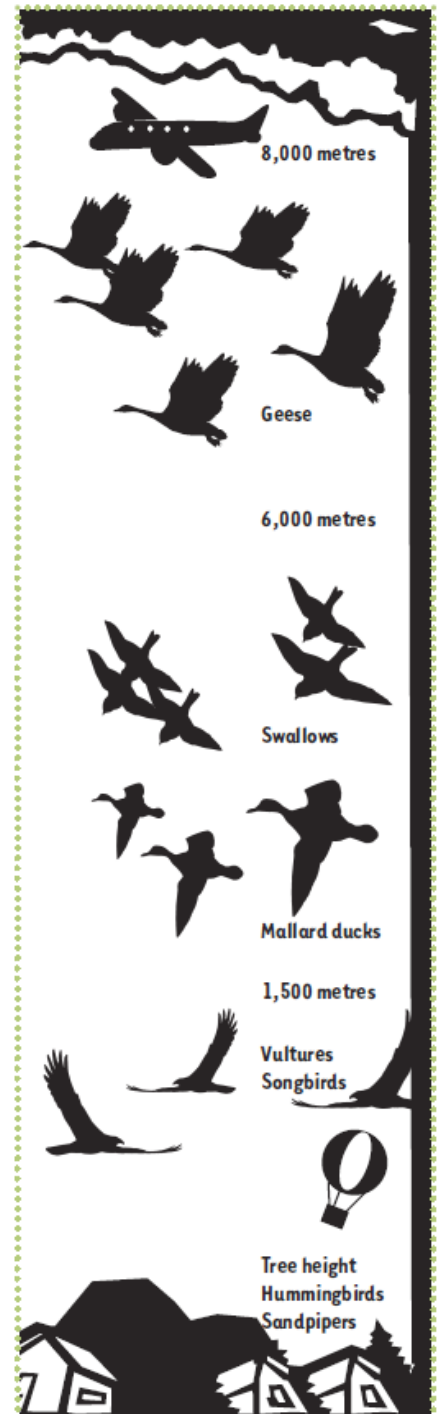
## In Advance

- Print out maps of the major "flyways" of North America (see [www.atlas.gc.ca](http://www.atlas.gc.ca)).

## Activity

1. Discuss the various ways that birds adapt to winter.
  - Explain that migration is something that most small North American songbirds do to avoid the coldest months.
2. Divide the class into groups of three and distribute the maps of major "flyways" of North America. Each group should:
  - Select three backyard bird species from your area that are migrators.
  - Research where their birds spend their winters.

## Migratory Bird Flight Altitudes



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3. Give each group a copy of a map of North America that does not depict flyways.
4. Ask them to draw in the wintering sites, nesting ranges, and flyways of their birds, then present it to the class.
5. Have students speculate on why their species migrate.
  - Does their insect diet disappear in winter?
  - Does winter ice prevent them from finding food?

## Extensions

- List possible ways that human activities may affect bird migration.
- Explore the importance of the "rest and refuelling" habitats that migrating birds depend on along their migration routes.

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