



The mission of the National Wildlife Federation® is to educate, inspire, and assist individuals and organizations of diverse cultures to conserve wildlife and other natural resources and to protect the Earth's environment in order to achieve a peaceful, equitable, and sustainable future.

As America's largest member-supported conservation group, NWF leads grassroots efforts to safeguard wildlife, wild places and the natural resources on which we all depend.

The National Wildlife Federation has been a leader in environmental education for nearly 65 years. From our Schoolyard Habitats® program and teacher workshops to Ranger Rick™ magazine and our award-winning television shows and films, NWF's dynamic education efforts reach out to help people discover, experience and connect with the wild in our world.

For more about NWF's education programs, visit us at [www.nwf.org](http://www.nwf.org).

The National Wildlife Federation's *Keep the Wild Alive*™ program is an ambitious endangered species campaign that aims to build support for endangered species, engage the public in species conservation efforts, and move several imperiled species closer to recovery.

For more information about the *Keep the Wild Alive* campaign, or to learn about simple actions you can take to help endangered species, please visit the *Keep the Wild Alive* website at [www.nwf.org/keepthewildalive](http://www.nwf.org/keepthewildalive) or call (202) 797-6800.



AMERICAN ZOO AND AQUARIUM ASSOCIATION

Founded in 1924, the American Association of Zoological Parks and Aquariums, now known as the American Zoo and Aquarium Association (AZA), is a nonprofit organization dedicated to the advancement of zoos and aquariums in the areas of conservation, education, science, and recreation. AZA's vision is to work cooperatively to save and protect the wonders of the living natural world.

The AZA and its accredited zoo and aquarium members constantly strive to maintain the highest standards in wildlife care and conservation. To demonstrate this commitment, AZA members participate in over 700 cooperative conservation and management programs. Through these programs, AZA assists its members in managing their captive populations and conducting and overseeing zoo and aquarium-based and field-based conservation, research and education projects. Since 1991, AZA's Conservation Endowment Fund has awarded over \$2 million to support 146 projects benefiting wildlife worldwide.

AZA-accredited zoos and aquariums draw over 134 million visitors each year. With their incomparable commitment to conservation education in living classrooms, AZA zoos and aquariums teach more than 12 million people annually. More than nine million students enjoy on-site education programs at our member institutions each year — over three and a half million receive them free of charge.

We are proud of our dedication to conservation and science and conservation education. In 2000 alone, AZA members supported over 2200 conservation and associated scientific and educational projects in 86 countries worldwide. In the same year, over 58,000 volunteers contributed over five million hours to support AZA member zoos and aquariums. Through projects like the Butterfly Conservation Initiative and other local efforts, AZA institutions are becoming community conservation centers. Contact your local accredited zoo or aquarium to find out how you can get involved. Visit [www.aza.org](http://www.aza.org) or call (301) 562-0777 to learn more.

# THE GREAT BUTTERFLY MIGRATION

ACTIVITY  
3

## Summary

Students trace butterfly migration routes.

**Grade Level:** 5-8

**Time:** 1 class period

**Subjects:** science, geography

**Skills:** research, predicting, communicating

**Learning Objectives:**

Students will be able to:

- ✓ Define the term migration.
- ✓ Explain how and why some animals migrate.
- ✓ Trace North American butterfly migration routes.

**Materials:**

- ✓ Copies of blank maps of North America
- ✓ Research sources (internet or reference books)

## Background

Approximately 13 species of North American butterflies migrate north in early spring and south in late summer. Most of these migrations go unnoticed, but they are truly spectacular considering the small size of the butterflies and the tremendous distances they travel.

These annual migrations rank high on the list of amazing insect accomplishments. Consider that the monarch butterfly can migrate 4,500 km from eastern Canada to their wintering sites in Mexico. For an animal with a body of about 3 cm (0.03 m), flying a distance of 4,500 km is about 150,000,000 body lengths for a monarch butterfly. An equivalent feat for a 1.8 m (6 ft) tall person would be 270,000 km or about 11 times around the earth. Each year hundreds of millions of butterflies make their way across North America. This is a truly amazing feat!

This activity will allow your students to examine several butterfly migration routes.

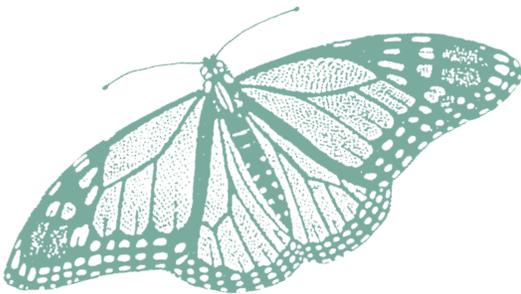
## Procedure

1. Ask students what they know about migration. *What is it? Which animals do they know of that migrate?* (Examples: whales, many songbirds, zebras, butterflies, caribou, whooping cranes, hummingbirds, manatees.) Make a list on the board.

2. If students do not mention it themselves, point out that several species of butterflies migrate very long distances. *How is this possible? Why would they want to do that?* Make a list of reasons on the board. Be sure to touch on: temperature, climate, food sources, and habitat conditions.

3. Give students blank maps of North America (on pg.16), and a choice of migratory butterflies. (Common buckeye, red admiral, painted lady, mourning cloak, monarch, gulf fritillary, question mark, cloudless giant sulphur, pipevine swallowtail, dwarf yellow, Mexican yellow, sleepy orange, and long-tailed skipper.) Have students conduct research on their butterfly of choice to determine where this species spends its summer and winter, and map out its approximate route along the way. Students should mark these routes on their maps.

4. Ask students, *What threats do these animals face on their migrations? What threats would migratory insects face that might*



*not affect other migratory animals? Why would migratory insects face greater threats than animals that do not migrate?*

**5.** Have students study the migratory routes they mapped out and research some of the locations through which their butterfly species travels. *Are there any major cities along these routes? Areas of large human population? Large agricultural areas?* Have students mark these places on their maps as well. *What challenges do the butterflies face along their migratory route?* Have students conduct research and prepare posters showing their butterfly routes and the challenges faced on these routes as they attempt to meet all their habitat needs for food, water, cover, and places to raise young. *Are any of these butterflies considered endangered? Why might that be?*

**6.** Ask each small group of students to give a poster presentation, explaining their findings to the class.

*Note: To participate in an actual migration-monitoring project, visit [The Journey North](http://TheJourneyNorth.org), [www.learner.org/jnorth](http://www.learner.org/jnorth), where students can report their sightings and communicate with other students nationwide. You may also want to visit [www.monarchwatch.org](http://www.monarchwatch.org) for*

*more information on tracking butterfly migrations.*

### Extension

✓ Create a large outline map of North America on the ground in a large outdoor area. Using reference sheets you provide, have students create large-scale models of migratory butterfly species out of construction paper and assorted craft materials. Provide student groups with butterfly migration map outlines. (Visit [www.monarchwatch.org/tagmig/index.htm](http://www.monarchwatch.org/tagmig/index.htm) for monarchs. Other species require more in depth research and you may need to draw up the map yourself after some research.) Have students trace identified migration routes by walking over the approximate route, demonstrating to others where the butterflies go in spring and fall. If possible, have a couple of students stand still in key locations to show where major cities are located in North America. Ask students volunteers to explain where these butterflies will find food, water, cover, and place for their young along their migration routes.

### Assessment

✓ Have students write creative “breaking news” newspaper stories about their migratory butterflies’ arrival, departure, or journey through their key locations, including challenges they face along the way and what they are looking forward to at each location.



# WORKSHEET

## NORTH AMERICA MAP

### Directions:

Mark the migration route of your chosen butterfly on the map. Mark any major cities, large agriculture areas, and other important landmarks along the butterfly's route.

