

# Monarch Journey

## Essential Question:

*What are some hazards that face monarchs during their migration journey?*

## At a Glance:

Learners learn about hazards faced by monarch butterflies during their migration between Canada and Mexico as they participate in a role playing game.

## Background Information:

See the pollination take-home packet and Stage 1 of Lesson 4 for background information on monarch migration.

Some related websites include:

[www.monarchwatch.com](http://www.monarchwatch.com)

<http://www.learner.org/jnorth/monarch/index.html>

*This activity is adapted from Monarch Migration Mix-Ups, South Dakota Game, Fish and Parks*

<http://www.sdgfp.info/wildlife/education/OutdoorCampus/butterflies/Monarch%20Migration%20Mix.pdf>

## Procedure:

1. Review concepts related to monarch migration with your club. Ask if they can think of any limiting factors or hazards faced by monarchs on their migration journey.
2. Set up a large playing area in an open field or gymnasium. Put placemats representing monarch habitat in two patches at each end of the playing field. You should have one plate for every three learners at BOTH ends of the field – if you have 30 learners, place 5 at each end of the field or 10 plates total. Adjust the total number of plates and those that are taken away during the game according to your group size.
3. One end of the field should be designated as the winter habitat and the other end as the summer habitat. You will have a set of placemats at each end of the playing field - the winter habitat and the summer habitat.
4. Have the learners put one foot on a placemat in the summer habitat. Remember that three students can have a foot on each placemat.
5. Tell the learners that they are monarch butterflies in their summer habitat in Canada and northern North America. During their summer, they nectar on flowers in gardens and lay eggs on milkweed, their larval host plant.
6. Explain that fall is coming to the summer habitat. The days are getting shorter, nectar plants are dying back and temperatures are dropping. These cues help monarchs know it is time to migrate south. When it is time to migrate, learner monarchs will fly south and put a foot on a placemat in the winter site (3 learners per placemat).
7. If they are not able to put a foot on a placemat in the wintering site, that means they cannot find a suitable habitat to spend their winter. If that happens, they will ‘die’ and move to the sidelines of the game – at least temporarily. You may want to tell the

**Location:** gymnasium or outdoor field

**Objectives:** Learners will

- 1) understand threats and hazards to monarch migration.

**Skills:** physical activity, science, geography

**Supplies:**

- Placemats or paper plates (1 for every 3 students)
- Paper or card with migration hazards written on them.

**Subjects:** science

**Time:** 20 min

learners to ‘flutter their wings,’ moving their arms like butterflies in flight during their migration.

8. Say, “Migrate,” and have the learners fly south to their wintering habitat. Have the learners migrate slowly the first time, and make sure all the monarchs successfully make the migration so the students become familiar with the process.
9. Before the second “migration”, tell the learners about some limiting factors/hazards that are affecting the summer habitats while they are resting in Mexico. For example, a new Shop-Mart was built over a field where the monarchs used to find plenty of milkweed. Remove one or two placemats from the summer habitat.
10. Allow learners to “migrate” to their summer habitat. The learners that don’t find a placemat should go to the sidelines of the playing field. Discuss the results of this round.
11. There has been a catastrophic loss of habitat in the wintering grounds where loggers illegally removed several Oyamel trees. Remove three or four placemats from the winter habitat.
12. Instruct the learners to migrate. Many monarchs will not survive this migration. Tell the monarch learners that they may be able to re-enter the game if someone in the summer habitat wants to protect monarchs and plants some milkweed to replace the loss last summer.
13. Repeat the process for several migrations to show changes in habitat conditions and limiting factors. For one of the rounds, you may want to introduce other hazards or limiting factors, such as those listed below. Write these hazards on a piece of paper and pass them out to random ‘monarchs’ as they are migrating. These learner monarchs did not make it and must move to the sidelines. Discuss these additional limiting factors after the round.
14. Use the discussion questions at the end of the activity write-up.

**Limiting Factors for monarchs in Winter Habitat:**

- Illegal logging
- Snowstorm
- Disease
- Pesticide use
- Unseasonal temperatures

**Suggested Limiting Factors for monarchs in Summer Habitat:**

- Expanded agriculture, eliminating milkweed plants
- Housing or business developments, creating habitat loss
- Very rainy summer, resulting in shorter growing season for nectar plants
- Pesticide use
- Drought, hurting both nectaring plants and milkweed

**Discussion/Assessment**

Why do monarch butterflies migrate? Where do they migrate to?

What are some hazards or limiting factors that affect survival during this migration?

What can we do to help the survival rate of monarchs and other pollinators?