

The migration of the monarch butterfly

BY MARTHA H. DOBSON AND MARGARET MONDS



Figure 2. From butterflies, young students can learn about not only the natural world but about the geography of North America.

We believe that this would be a really fun lesson to use as an extension of the LEARN NC lesson, “An Integrated Lesson Comparing the Butterfly and Frog Life Cycles¹,” written by Martha Dobson and Margaret Monds. This would be a good activity to do in the spring of the year. It would also be a good way to review life cycles and previously taught items about plants and animals.

This lesson plan was developed during the English Language Development Standard Course of Study lesson planning institutes hosted by the North Carolina Department of Public Instruction and LEARN NC, June and July, 2004. It includes specific strategies, instructional modifications, and alternative assessments, which make this lesson accessible to limited English proficient students. Please note that this lesson has been aligned with the goals and objectives of the North Carolina English Language Development standards.

Learning outcomes

Students will learn about the geography and vegetation of the United States and Mexico in relationship to the migration habits of the monarch butterfly population. Students will also learn about seasons and weather that impact this butterfly.

Teacher preparation

CLASSROOM TIME REQUIRED

5 days

MATERIALS REQUIRED

- chart paper
- crayons

- second grade writing paper
- stapler
- drawing paper
- construction paper and paper with a space for a picture at the top and lines for writing at the bottom
- pictures of the Oyamel trees in Mexico, the eucalyptus tree, the milkweed plant, and pine trees
- maps of Mexico and North America for students to label with the United States and Canada featured (such as the map provided below)
- books on the migration of the monarch butterfly
- flash cards with pictures of the critical vocabulary words
- pictures of the plants in Mexico and the United States on which butterflies are found

TECHNOLOGY RESOURCES REQUIRED

- A computer with internet access

Pre-activities

Read the Pair-It³ book *A Butterfly's Life* and review the life cycle of a butterfly. If this book is not available, use any book you have on the butterfly life cycle. If students do not remember the life cycle of the butterfly and need review go to these LEARN NC lesson plans:

- “An Integrated Lesson Comparing the Butterfly and Frog Life Cycles⁴” by Martha Dobson and Margaret Monds
- “Butterfly Cycle⁵” by Becky Woolard

Activities

DAY 1

1. Review the butterfly life cycle and read the book, *Buddy Butterfly and His Cousin*. If you do not have this book, use any other book about the migration of the monarch butterfly. In order to help the students better understand the concepts in this book ask the students these questions:
 - Describe the monarch butterfly.
 - What body parts does the monarch butterfly have?
 - Name the seasons.
 - Name the months that come in each season. (Be sure that students understand that autumn is the same season as fall.)
 - In which season do monarch butterflies go to Mexico? (Fall)
 - Where do butterflies in the western part of the United States or Canada go in winter? (the coast of Southern California)
 - What is the weather like in the United States when the butterflies leave their homes in the United States to fly to Mexico? (winter weather)

- What is the weather like in Mexico when they arrive there? (temperate–warm)
 - What season is it in Mexico when they arrive there? (winter, but it’s warm.)
 - Why do the monarch butterflies migrate? (The monarch butterfly cannot withstand freezing winter temperatures, nor can it last in the extremes of summer heat. To survive, the Monarch must migrate to a place that is neither too cold nor too warm such as Mexico in the winter. The monarch is the only insect that can fly 2,500 miles to a warmer climate. This is possible because of its unique wing structure and its yearly life cycle. Up to one hundred million monarch butterflies migrate either to California or to Mexico each year.)
 - In which continent is the United States? (North America)
 - In which continent is Mexico? (North America)
 - In which continent is Canada? (North America) Note: make sure that students understand that the United States, Mexico, and Canada are all in North America.)
2. Using the world map and/or the globe, have the students locate Mexico, Canada, and sites⁶ in the United States where monarch butterflies live such as California, Oregon, and Washington.

DAY 2

1. Read aloud and discuss the pictures of parts of the book *Monarchs* by Kathryn Lasky or another book of your choice that emphasizes information of the migration of the monarch butterfly.
2. Give the students a map of North America. Have them color Mexico, the United States, and Canada different colors. Give students a map of Mexico. Have them label Angangueo, Michoacan in Mexico where millions of these butterflies are found and where there is a sanctuary for these butterflies. Also, locate the Sierra Madre Oriental Mountains of Mexico where monarch butterflies are found. Note: Michoacan is one of six states where most of the Hispanic students in North Carolina come from. Maps can be gotten from Enchanted Learning⁷.

DAY 3

1. Read the Steck-Vaughn Pair-it books, *Sam’s Seasons* and *Season to Season* or books of your choice about the seasons.
2. Talk with students about the plants on which butterflies are found in the different stages of their life cycles. Show pictures of these trees. These pictures may be found on the websites listed below. (In Mexico the monarch butterflies cluster on Oyamel trees, which are similar to fir trees. In the larvae stage in the United States, monarch caterpillars feed on milkweed plants. In California monarchs overwinter on eucalyptus trees, pine trees, and other trees in the area.)
3. Also discuss the seasons and months when the monarchs are found on each type of vegetation.
4. Create a book with students called *The Seasons of the Monarch Butterfly*. Brainstorm with students what the book should contain and look like. Group the students in pairs. Have them work together on their page to draw the picture and write the sentences. On each page have a picture and two or three descriptive sentences. Be sure to include

pictures of the monarch on the Oyamel tree in winter in Mexico, the monarch caterpillar on the milkweed plant in the United States in the spring, butterflies in the summer on flowers and trees, monarchs in flight, butterflies clustering on eucalyptus and pine trees in California, and monarchs in fall in flight to Mexico.

5. When the class has finished the book, share the book with other students in the school by displaying it in the media center. You might also have the student pairs read aloud and show the picture of the page they created.

EXTENSION ACTIVITIES

1. Send students to the computer to the Scholastic internet site to do the “Migrating Monarchs⁸” activity. This is an interactive site, which links students to the answers for the questions listed on the activity questionnaire.
2. The early ancestors of the Mexican people were the Mayans and Aztecs. They frequently included butterflies in their cultural arts. If you have a lot of Hispanic students, you might want to mention the Aztec people and have the students draw and/or color the Aztec design of the butterfly. Insecta⁹ has traditional Aztec drawings of the monarch butterfly.
3. Print a copy of a picture of the parts of a butterfly from Enchanted Learning¹⁰ for students to color and label.

Assessment

1. Give the students a blank map of North America. Have them label and locate Mexico, the United States, and Canada.
2. Ask students individually to name the four seasons and the months in each season. Ask students to explain individually why monarch butterflies migrate and to name at least one plant on which the butterflies are found in Mexico and one in the United States.

Modifications for English language learners

DAY 1

Make sure that the ELL knows the following words: egg, caterpillar, cocoon, butterfly, first, second, third, fourth. If they do not know these words or understand the butterfly cycle, do the butterfly life cycle lessons.

DAY 2

When the class reviews months and seasons, ask the students to repeat the names of the seasons after the teacher. Then have the students repeat the names of the months of the year and the months in each season. As time permits, have a buddy repeat these words with the ELL. As an extension activity have the ELL draw and label pictures to represent the months of the year and weather (See Elizabeth Claire’s ESL activity books.)

When you ask questions about the book “Buddy Butterfly and His Cousin,” use total physical response to help the ELLs learn the vocabulary. For example, demonstrate hot, warm, and cold.

Use flash cards with pictures of the critical vocabulary. As you have students point to Mexico, Canada, the United States and other places on the map, the ELLs could also be asked to point to pictures of critical vocabulary. The ELLs will be able to point to the places on the map.

DAY 3

The ELL should be able to do the map work alone. The classroom teacher will need to monitor the ELL and make sure he/she understands what to do.

DAY 4

Continue with the use of flash cards and pictures of the critical vocabulary. Ask ELLs to point to the picture of the word used. For example, “Point to a tree,” or “Show me a picture of fall,” and “Go to the picture of a mountain.” As the ELL demonstrates understanding of the critical vocabulary words, have them point to and show you the eucalyptus tree, the picture of the milkweed and the Oyamel trees.

While other students are discussing the seasons and months when the monarchs are found on each type of vegetation, ask the ELLs to simply name the season when monarchs are found on a specific plant. When you ask this question, hold up or point to a picture of the specific plant.

When students create the book, *The Seasons of the Monarch Butterfly*, pair the ELL with a buddy who speaks the ELL’s first language well or an advanced native speaker who will work well with the ELL. The ELL should contribute in simple language ideas for the book. For example, the ELL might say, “It’s hot in summer.” The native speaker will write the sentences for the book. The ELL should help with the drawing. The ELL should not be asked to read the page he/she and his/her partner created; however, he/she might point to the part of the picture being described or repeat the sentences that are read.

DAY 5

While the students in the class are writing a make-believe or true story on the monarch butterfly, ask the ELLs to color the picture of the monarch butterfly on their page like the other students.

Modify the writing assignment in the following way: Help students to compose simple sentences using the critical vocabulary and/or ask them to copy sentences they have helped to compose. For example, “It is hot in summer. In winter it is cold. Mexico is in North America. Butterflies migrate.” Let them put a picture beside the sentence. For example, draw a sun beside, “it is hot.”

ALTERNATIVE ASSESSMENT

- Explain in simple language the same items listed for all students on the Monarch Butterfly Migration Assessment. For example, the Novice Level High ELL might only

say, “It’s cold,” to explain why monarchs migrate. The ELL should be able to name the seasons and months. If the ELL is unable to pronounce the name of a plant in Mexico or the United States, have them point to a picture in the room of the plant.

- Give students the self-assessment (below, under Supplemental Resources) to complete. Read aloud the sentences for the ELL.

CRITICAL VOCABULARY

- North America
- Canada
- United States
- migrate
- fall
- spring
- summer
- winter
- months of the year
- continent
- cold
- hot
- warm
- season
- locate
- mountains
- plant
- tree

Supplemental resources

BOOKS

A Butterfly’s Life and *Buddy Butterfly and His Cousin* are excellent fiction and non-fiction books, which are a part of the Pair-It Steck-Vaughn books on the 2–3 Transition Stage level.

Sam’s Seasons and *Season to Season* are excellent Steck-Vaughn Pair-It books at the emergent reading level. *Sam’s Seasons* is the story of a boy searching for his boots as he tells what he used his boots for in each season. *Season to Season* has wonderful pictures and shows the butterfly cycle and how animals and trees change through the seasons.

Lasky, Kathryn. (1993) *Monarchs*. Harcourt, Brace and Company. Excellent photographs and information, especially on migration to Mexico. Discusses Pacific Grove, California, and Mexican overwintering sites.

Lavies, Bianca. (1992) *Monarch Butterflies: Mysterious Travelers*. Dutton Children's Books.
Text and photographs describe the physical characteristics, life cycle, migration and study of Monarch butterflies.

Self-assessment for butterfly migration lesson

Directions: Color the face for your answer.

1. "Buddy Butterfly" is a good book.



2. If I were a butterfly, I would like to go to Mexico for the winter.



3. I like studying butterflies.



4. My favorite season is winter.



5. My favorite month is March.



NORTH AMERICA



Produced by the Cartographic Research Lab
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North Carolina Curriculum Alignment

SOCIAL STUDIES (2003)

Grade 2

- **Goal 5:** The learner will understand the relationship between people and geography in various communities.
 - **Objective 5.01:** Define geography and use geographic terms to describe landforms, bodies of water, weather, and climate.
 - **Objective 5.05:** Interpret maps, charts, and pictures of locations.
 - **Objective 5.06:** Identify and describe the people, vegetation, and animal life specific to certain regions and describe their interdependence.

ENGLISH LANGUAGE DEVELOPMENT (2005)

Grade 2

- **Goal 1. Listening:** The learner will understand the relationship between people and geography in various communities.
 - **Objective NH 1.01:** Listen and respond to familiar questions, greetings, and phrases if spoken very slowly and distinctly, using one-word responses, physical actions, and other non-verbal communication.
 - **Objective NH 1.02:** Understand and follow one-step and two-step directions and instructions with modeling and prompting when spoken slowly and distinctly.
 - **Objective NH 1.03:** Listen and demonstrate comprehension of oral presentations, stories, and/or familiar texts by responding to simple questions and statements.
- **Goal 3. Reading:** The learner will understand the relationship between people and geography in various communities.
 - **Objective NH 3.03:** Print first and last name with some assistance.
 - **Objective NH 3.04:** Create artwork or illustrate comprehension of a familiar reading selection.
 - **Objective NH 3.05:** Read simple words and phrases representing learned vocabulary from a familiar reading selection.
 - **Objective NH 3.08:** Recognize 10-15 common words, including own name and environmental print such as common signs, logos, labels and trademarks.
 - **Objective NH 3.11:** Draw and label pictures related to a story topic or own experience.
- **Goal 2. Speaking:** The learner will understand the relationship between people and geography in various communities.
 - **Objective NH 2.01:** Begin to use simple words and phrases in addition to using physical actions and other means of non-verbal communication to ask questions to communicate basic needs and other social interactions with prompting and modeling (e.g., matching objects, pointing to answer, or draw pictures).
 - **Objective NH 2.04:** Begin to speak with a few words, using some English phonemes and rudimentary English grammatical forms with prompting and modeling.
- **Goal 4. Writing:** The learner will understand the relationship between people and geography in various communities.
 - **Objective NH 4.04:** Begin to compose simple sentences about familiar experiences, stories, people, objects, and events with support materials.

SCIENCE (2005)

Grade 2

- **Goal 1. Writing:** The learner will conduct investigations and build an understanding of animal life cycles.
 - **Objective 1.02:** Observe that insects need food, air and space to grow.

On the web

The Wild Ones Animal Index

<http://www.thewildones.org/Animals/monarch.html>

The monarch life cycle.

Educational Science

<http://educationalscience.com/>

Online store with butterfly farm kits.

Barb's Books

<http://www.barbsbooks.com/pair-it.htm>

Steck-Vaughn Pair-it Books for Emergent Readers.

CyberHunt

<http://teacher.scholastic.com/products/instructor/monarchs.htm>

Online “scavenger hunt” for facts about monarch butterflies.

Butterfly and Moth Bibliography

<http://butterflywebsite.com/Educate/biblio.htm>

A bibliography created and maintained by Laura Mitchell, reference librarian and amateur lepidopterist.

Surfing the Net With Kids

<http://www.surfnetkids.com/butterfly.htm>

Links to monarch websites, including the first sightings of the year.

The Monarch Migration

http://www.riverdeep.net/current/2000/09/092900_migrations.jhtml

Describes the migration of monarch butterflies, including predictions for where they will be concentrated at different times of year.

Insecta

<http://www.insecta-inspecta.com/butterflies/monarch/>

Information on monarchs.

More from LEARN NC

Visit us on the web at www.learnnc.org to learn more about topics related to this article, including English language development, biology, butterflies, migration, monarch butterflies, and monarch butterfly.

Notes

1. See <http://www.learnnc.org/lessons/mhdobson12212004642>.
2. See http://www.learnnc.org/media/lessons/mhdobson12212004355/Monarch_Butterfly_Migration_Assessment.rtf.
3. See <http://www.barbsbooks.com/pair-it.htm>.
4. See <http://www.learnnc.org/lessons/mhdobson12212004642>.
5. See <http://www.learnnc.org/lessons/BeckyWoolard212003622>.
6. See <http://www.pgmuseum.org/Monarchs.htm>.
7. See <http://www.EnchantedLearning.com/school/Mexico/Mapquiz.shtml>.
8. See <http://teacher.scholastic.com/products/instructor/monarchs.htm>.
9. See <http://www.insecta-inspecta.com/butterflies/monarch/>.
10. See <http://www.enchantedlearning.com/Home.html>.

Contributors

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Figure 2 (page 1)

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