

# It Starts with “M”... Monarchs, Milkweed, Migration and More!

**Grade Level: 4-8**

## Lesson Overview

A is for apple and B is for bat. Many students have learned the alphabet by relating a common object with each letter. In this activity, students will use this same principle to share information that they discover through Monarch butterfly research.

## Student Objectives

1. Students will research facts about the Monarch butterfly. Research may include: the Monarch lifecycle; its migration journey; the butterfly's dependence on milkweed and nectar plants, as well as other habitat needs; reasons and remedies for the dramatic decline in Monarch numbers.
2. Students will research how individuals, local organizations, as well as state and federal agencies are working to improve Monarch habitat.
3. Using the book “L is for Lincoln: An Illinois Alphabet,” as a template, students will use their research to create a classroom alphabet that highlights facts about the Monarch butterfly.

## Materials

- ✓ [L is for Lincoln: An Illinois Alphabet](#) by Kathy-jo Wargin ISBN: 1-58536-016-3
- ✓ Fabulous Fun Facts About Monarchs information sheet
- ✓ Other available research resources

## Background Information

The Monarch butterfly serves as an icon that represents all pollinators. Monarchs, as pollinators play a role in the health of our food system by fertilizing flowering plants. Without pollinators, many fruits and vegetables that people and animals rely upon could decrease in quantity and quality.

In addition to their role as a pollinator, the annual migration of Monarch butterflies is one of the world's great natural wonders. The Monarch migration takes several generations to reach their overwintering site in Mexico. Before one generation of Monarch finishes its lifespan, it lays eggs to begin the next. Monarch adults only lay their eggs on milkweed, and their caterpillars eat nothing but milkweed. Once caterpillars have pupated and emerge as butterflies, their menu expands to a wide range of nectar producing flowers that fuel their continent-spanning migration.

The Eastern Monarch Butterfly departs from their overwintering site in Mexico and then travels up through the Central and Eastern United States to Canada. These

journeys span from four to five generations of the butterfly. This means that the Monarchs that arrive in Mexico are at least the great grandchildren of those Monarchs that did it before them.

Monarchs are in decline across their range in North America. Loss of milkweed host plants has been identified as a contributing factor. Other contributing factors include habitat loss and degradation, natural disease and predation, climate change, and widespread insecticide use.

One of the most significant actions that can be taken to support monarch populations is to provide nectar-rich flowers and milkweed host plants. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. But, Monarch caterpillars are completely dependent on their milkweed host plants. Inadequate milkweed or nectar plant food sources at any point may impact the number of monarchs that successfully complete the migration journey.

Many organizations and agencies are working together to help the Monarch. There are many excellent resources to better understand the Monarch, its migration journey and habitat needs. A Fabulous Fun Facts about Monarchs Information Sheet is provided to provide a starting point for this research.

## Procedure

1. Introduce students to the Kathy-jo Wargin book, "L is for Lincoln: An Illinois Alphabet." There are many other books similar to this title for other states and regions.
2. Students will develop their own "M is for Monarchs and More" alphabet after researching facts about the Monarch butterfly. Research may include: the Monarch lifecycle; its migration journey; the butterfly's dependence on milkweed and nectar plants, as well as other habitat needs; possible reasons for the dramatic decline in Monarch numbers and possible remedies.
3. The development of the "M is for Monarchs and More" alphabet can be conducted in several different ways.

**NOTE:** A starter list of terms is provided with this lesson. It is not a complete list.

- Each student creates their personal "M is for Monarchs and More" alphabet. Students should select terms that describe the Monarch or provides an action that degrades or improves their habitat. Students should be able to explain to others how this term relates to the monarch butterfly.

- Divide the class into groups. Each group is assigned specific letters to find terms. It is suggested that each group have several consonants and at least one vowel.
  - Post each letter on a separate page and place around the room. Provide students with sticky notes. Students post their ideas for terms on the individual letter sheets. Interactive bulletin boards such as Padlet or JamBoard can also be used.
4. Discuss the terms that were suggested for each letter and allow students to explain why they chose these words and how the words relate to the monarch.
  5. Students will select one or two terms for each letter to develop an “M is for Monarchs and More” classroom alphabet book or slide show to teach others about the Monarch. This can be done individually, in small groups or as an entire class project.

## Extension Activities

1. Take It A Little Further - Compose 2-4 line poems using the terms from the classroom’s “M is for Monarch and More” alphabet. Examples for “M”:

*Monarch larvae are a picky bunch,  
Milkweed leaves are all they munch!*

*Migrating Monarchs have a long way to go,  
As they travel to the forests in Mexico.*

2. Illustrate the terms using graphics, photos, or drawings.
3. Put It All Together – Combine the poetry and graphics with the “M is for Monarch and More” alphabet into a story walk event.
4. Question Cubes: Students may select a facet of the Monarch’s life cycle such as habitat; migration route; taking action, etc. Students will then create classroom question cubes. <https://pdst.ie/sites/default/files/Cube%20Creator-3.pdf>
5. Questions developed from the Question Cubes activity may be used to develop a classroom jeopardy game.
6. Terms used for the “M is for Monarch and More” alphabet may be utilized for developing a word search or crossword puzzle.

## Additional Resources

- Illinois Agriculture in the Classroom Pollinator AgMag and Pollinator Ag Reader <http://agintheclassroom.org/TeacherResources/TeacherResources.shtml>

- Illinois Monarch Project - <http://illinoismonarchproject.org/>
- Farmers for Monarchs – <https://farmersformonarchs.org>
- Monarch Watch – <https://www.monarchwatch.org>
- Pollinator Partnership – <https://www.pollinator.org>
- Monarch Joint Venture - <https://monarchjointventure.org/>
- Xerces Society - <https://xerces.org/monarchs>
- Illinois Department of Natural Resources: Monarch Mania  
<https://www2.illinois.gov/dnr/education/Pages/monarchgen.aspx>
- US Forest Service: Monarch Butterfly in North America  
[https://www.fs.fed.us/wildflowers/pollinators/Monarch\\_Butterfly/index.shtml](https://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/index.shtml)
- Creating Monarch Habitat In Your Midwestern Garden (The Field Museum, Chicago) [https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/878\\_usa\\_monarch\\_habitat\\_garden.pdf](https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/878_usa_monarch_habitat_garden.pdf)

## Standards

### ***Illinois English Language Arts Standards***

RI 1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

W7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

### ***Illinois Social Science Standards***

SS.IS.2.6-8. Ask essential and focusing questions that will lead to independent research.

SS.IS.8.6-8.L.C. Analyze how a problem can manifest itself and the challenges and opportunities faced by those trying to address it.

The **M**ultidisciplinary **A**gricultural **I**ntegrated **C**urriculum (mAGic) was created in 2004 under the leadership of the Illinois State Board of Education (ISBE) and the Facilitating Coordination in Agricultural Education Project (FCAE). Funding was made available through the FCAE grant budget from the agricultural education line item of the ISBE budget. This revision, as printed, was developed in April 2021.



These mAGic lessons are designed to bring agriculture to life in your classroom. They address the Illinois Learning Standards in math, science, English language arts and social studies.

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## Fabulous Fun Facts About Monarchs

- Monarchs are not only found in North America, but also Australia, New Zealand, Hawaii and other Pacific islands.
- Monarchs are found statewide in Illinois. They are found in prairies, roadsides, pastures, marshes, urban gardens and farm field borders.
- The Monarch was named the official state insect of Illinois in 1975. Six other states have also named it as their state insect.
- A group of Monarchs is called a congregation.
- The name “Monarch” was given to the butterflies by European colonists in the United States and Canada in honor of King William III, Prince of Orange and King of England.
- The scientific name for the Monarch butterfly is *Danaus plexippus*, which in Greek means “sleepy transformation.” This refers to the butterfly’s ability to go through the process of metamorphosis and to also hibernate.
- There are four stages in the Monarch life cycle: egg; larva; pupa; and adult. The entire egg-to-butterfly process, called metamorphosis, takes about a month.
- Milkweed is the only plant that monarchs will lay their eggs on. This is because milkweed is the only source of food for the emerging larva. The monarch larva eats a lot and grows rapidly. When it is ready to pupate, it will weigh about 3,000 times more than when it hatched from an egg.
- Monarchs ingest poisons from milkweeds that they eat during the larval stage. These toxins stay in the insect’s body through the larval, pupal and adult stages and are known to have a bitter taste and can induce vomiting in predators. Few animals can eat monarchs without getting sick.
- Once out of the pupa, the damp butterfly inflates its wings with blood stored in its abdomen. It must wait for its wings to dry before it can fly away.
- The bright orange and black colors of the monarch warn predators that they are inedible, due to their diet of toxic milkweed. Other nontoxic butterfly species, such as the Viceroy butterfly, take advantage of the Monarch’s defenses and have evolved to look exactly like them. This fools predators into thinking they are also toxic and should not be eaten. This is called mimicry.
- Adult butterflies don’t grow. They survive by drinking nectar from flowers, including milkweed, clover, and goldenrod.
- Experiments have shown that the adults prefer orange flowers to those of other colors when searching for nectar.



- The first pair of legs on adult monarchs is very small and is held next to the body. These legs are used for tasting.
- Male Monarchs are slightly bigger than females and have black dots along the veins of their wings.
- Monarchs produce several generations each year. Each generation lives only a few weeks except for the generation produced in late summer or early fall. This generation migrates to Mexico and can live for about six months.
- Monarchs know when it's time to migrate south for the winter based on signals from the environment that indicate the seasons are changing. When it's time, the butterflies will lift up on air currents high into the sky and embark on their journey.
- Migrating Monarch butterflies are guided by the sun's orbit as they travel through North America. Even on cloudy days, they're able to stay on track thanks to an internal biological compass that functions based on the movement of the sun.
- Monarchs can fly at speed reaching about 20 miles per hour.
- They travel from 40 to 100 miles per day when migrating. It can take up to two months to complete their journey.
- Monarchs in North America are the only butterflies with a predictable, annual migration. Depending on their location, they migrate between 1,200 and 2,800 miles to a special type of high-altitude forest in Mexico.
- Millions of Monarch butterflies share a single acre of forest at their hibernation site in the Monarch Butterfly Biosphere Reserve in Mexico.
- The Illinois Monarch Project is collaborating with many public and private partners, as well as individuals from across Illinois. They are working to protect and enhance existing habitat and to establish new habitat which will support Monarch butterflies and other pollinators. They have set a goal of adding 150 million new milkweed stems and other nectar resources to the Illinois landscape by 2038.

## **It Starts with “M”... Monarchs, Milkweed, Migration and More!**

NOTE: Terms listed are only a few of the many words that could be used. This list is limited only by the student’s imagination.

A... Adults; Asclepias; Annuals; Antennae; Abdomen

B...Butterfly; Blooms; Backyard

C...Chrysalis; Caterpillar; Corridor; Conservation

D...Decline; Diversity

E...Egg; Endangered; Environment; Ecosystem

F...Fall; Farmers; Flutter; Food; Forests

G...Garden; Global Warming; Generations; Germination

H...Habitat; Help; Herbicide; Head

I...Illinois; Insect; Instar

J...Judgement

K...Know; Kids

L... Litter; Local; Life Cycle

M...Monarch; Milkweed; Mexico; Migration; Mimicry

N...Native; Nectar; Nesting

O...Overwinter; Orange; Oyamel fir

P... Pollinator; Pupa; Prairie; Plants; Protect; Perennials; Predators

Q...Quest; Quiet

R...Route 66; Rocks

S...Spring; Summer; Shelter; Seeds; Sunlight

T...Trees; Tag; Thorax

U...Understand; Unique

V...Valuable; Veins; Viceroy

W...Wings; Water; Waystation; Wind; Weather; Winter; Wildflowers

X... Xerces Society; Xeriscaping

Y...You; Yellow

Z...Zig-zag