

Monarch Migration – Citizen Science

Digital Toolkit – Clean Creek Campus Extension Activity

Activity Summary:

Learn more about an incredible migration that happens right here in Austin, Texas! Students will learn how they can contribute to citizen science projects focusing on the Monarch Butterfly's migration, and how we can all help the butterflies as they make their journey!

UNIT: Clean Creek Campus

GRADES: 3rd grade and up

MATERIALS:

- Tablets or computers to log monarch sightings
- Journals for students to record sightings

OBJECTIVES:

Students will be able to:

- Understand why animals migrate, and learn about the monarch butterfly's migration
- Understand that citizens can both participate in citizen science and assist in providing crucial habitat for monarchs.

TEKS CORE CONCEPTS:

- Coming Summer 2019!

Before activity: If tablets available - have Journey North downloaded onto tablets (<http://sciencenetlinks.com/tools/journey-north-app/>). If not, make an account with the program and bookmark pages on computers for use later on.

Introduction:

Introduce the concept of citizen science to students: public involvement of data collection for larger research/projects

1. How is this helpful for scientists? *More people collecting more data!*
2. How is it helpful for citizens? *Helps people get engaged in important work in the community, brings them closer to the science, and learning about how we affect many different things in our city! There are many different citizen science projects happening all over and all the time! We're going to focus on one specific and locally relevant project today – Monarchs!*

Monarch migration:

1. What is migration? Why might animals migrate? *When animals travel over a long distance. Common reasons for migration: for food, reproduction, but most of all, to avoid harsh winters.*
2. There's one animal, the monarch butterfly, whose migration is very relevant to us! *Has anyone heard of the monarch before or seen a monarch butterfly? Do you know where they migrate to and from?* Show image of a monarch butterfly and share information about monarch migration specifically: see [Journey North chart](#) showing the full year and migration.
3. Why are monarchs and other pollinators important? *They pollinate native plants and serve as a food source for many other animals!*
4. Why are native plants important? *Important source of habitat, help provide biodiversity, prevent erosion, etc. Monarchs rely on milkweed in order to reproduce, and many other plants as a source of food.*
 - a. Can watch [National Park Service video](#) focusing on the importance of the milkweed plant for the monarch's life cycle. (Recommendation to start at 3:30)
5. Show students [current map data for the migration](#)

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Activity – Part I – Data Collection

How can students participate in citizen science collection? Can take observations and photos.

Designate times for students to go outside and look for monarchs. Have students record any monarch sightings during the migration season. Include: time, date, location, etc. Return to the classroom to log sightings in Journey North - whether individually or as a class.

[Link to page to begin](#) entering sightings. *What have they observed? How does that compare to other sightings and data collected by other citizen scientists?*

Activity – Part II – Build a Pollinator Habitat!

How else can we help monarchs? We can build them a habitat that has everything they need during their migration? What kinds of things are those? Food, water, milkweed to lay their eggs, other native pollinator plants.

Have students research beneficial plants for monarchs. Make a list of plants and materials to include in a pollinator garden.

Resources for getting your garden started:

Lady Bird Johnson Wildflower Center’s Seed Grant for planting wildflowers on school campus:

<https://www.wildflower.org/seed-grants>

Landscape for Life’s free, comprehensive curriculum for using the garden as a teaching tool:

<https://landscapeforlife.org/faq/>

Can Use National Wildlife Federation and Monarch Watch links for further information about building and certifying your monarch habitat or waystation.

- Become a Butterfly Hero through the National Wildlife Federation:
<https://www.nwf.org/Butterfly-Heroes/Getting-Started>
 - o Guidelines for certifying your garden as a Certified Wildlife Habitat:
<https://www.nwf.org/Garden-for-Wildlife/Certify>
- How to certify a monarch waystation: <https://www.monarchwatch.org/waystations/>

Work with administration to build or add to an existing school garden, and encourage students to plant native pollinator plants at home. [See SFC’s list of school garden building resources:](#)

Can also use the City of Austin’s [Gro Green Plant Database](#) to identify conditions for planting different native plants.

Additional Resources:

- More background information on monarchs from National Park Service :
<https://www.nps.gov/articles/monarch-butterfly.htm>
- Additional classroom monarch projects with Monarch Watch:
<https://www.monarchwatch.org/class/studproj/index.htm>
- Link to Central Texas School Garden Network: <https://greeningyourschoolyard.com/>
 - o Wildlife Habitat Resource: <https://greeningyourschoolyard.com/projects-and-examples/wildlife-habitat-gardens/what-are-wildlife-habitat-gardens>
 - o Resource page: <https://greeningyourschoolyard.com/map-resources/resources>