



field trip guide

In this guide, you will find:

- **teacher tips** (pp. 1-5)
- **maps / exhibit guide** (pp. 8-10)
- **field trip workshops** (pp. 6-7)
- **focused field trips** (pp. 11-20)

CHICAGO
ACADEMY OF
SCIENCES

PEGGY NOTEBAERT
NATURE
MUSEUM

naturemuseum.org/fieldtrip

Why Take a Field Trip to the Nature Museum?

1 We've been at this for over 160 years

As Chicago's oldest museum, we know a thing or two about science education! Our staff are experts at developing education programs and exhibitions that stimulate and excite young minds. Book a field trip and you'll see!

3 We teach!

Take your field trip to the next level by scheduling a hands-on workshop led by an experienced museum educator. With 14 different indoor and outdoor workshops developed for a diverse range of learners, you can choose the unique workshop perfect for your class.

5 Learning inside and out

From interpretive nature trails outside the Museum and around North Pond, to more than 30,000 square feet of exhibitions within the Museum, your students will truly be immersed in the nature all around us! In addition to our signature exhibitions, we feature rotating exhibits throughout the year that always keep our museum experience fresh.

7 BUTTERFLIES!

Experience the whirling wonder of the renowned *Judy Istock Butterfly Haven*! More than 40 species of exotic high-flying butterflies and stunning birds from around the world await your class in our 2,700 square foot greenhouse. Complete with serene pools of water, flowers, tropical trees, and thousands of fluttering butterflies, the *Butterfly Haven* is an experience your students will not forget!

2 Discover the nature that surrounds us

We are Chicago's urban gateway to nature and science. Our exhibits, specimens, live animals, and conservation initiatives all focus on our region's unique ecosystems. Inspire your students to seek out, observe and discover the nature all around us.

4 It's ALIVE!

With more than 40 living animal species, the Nature Museum is one of the only museums where your class can get up close and hands-on with turtles, snakes, insects, and more! In addition to our living collections, we have thousands of preserved specimens—from rare extinct species to common plants and animals.

6 Real conservation, real science

Our scientists are hard at work saving turtles, butterflies, snakes, and bees! Learn about our research and conservation efforts with endangered species like the Blanding's turtle, and see the little hatchlings we are rearing for release in local habitats.

8 A price that can't be beat

All Illinois school groups receive free admission to the Peggy Notebaert Nature Museum—no catch! Your group will have the opportunity and time to see everything we have to offer, without any special exhibit fees. Plus, we'll outfit your class with a self-guided tour card with an option to customize based on your grade and interests.

when you arrive

It's easy to get you and your class into the Nature Museum!

Our staff have developed an easy and organized system that will get your belongings stored and your group off to your first exhibit or workshop in a smooth and efficient manner.

1



When your bus arrives, it will pull into the turn-around directly in front of the Nature Museum. A staff member will greet your bus and provide the Museum rules to your group while the lead teacher from each school enters the Museum to check in and receive your group's tour cards.

2



Your classes will then be led off the bus and organized into letter groups by class, each with its own tour card. These tour cards provide an outline for your visit and also include specific times and locations for lunches and workshops.

3



Once organized, your group will be moved inside to drop off your lunches and coats.

4



A staff member will escort you to your first exhibit or workshop, and your Museum exploration begins!

planning for success

Dress for the weather

The Nature Museum has amazing outdoor grounds that can be accessed all year round. Check the weather forecast, and remind your students to dress for the weather so you can visit North Pond, Elizabeth Plotnick Tallgrass Prairie, and the Micole Birdwalk during any time of the year.

Plan a focus

Help your students get even more out of their trip by connecting your visit at the Nature Museum to what your students are learning in class. *See page 11 for more information about focused field trips.*

Add a field trip workshop

Get up close and personal with the Nature Museum's living and preserved collections! *See page 6 for more information about field trip workshops.*

Make the most of your trip by engaging students

As you explore the exhibits in the Museum, help students look closely and think deeply! Prompt them with questions such as, "What do you notice?" and "What else does this make you wonder?"

Bring the Nature Museum to your school

Make long lasting connections between in-school and field trip learning. You can borrow inquiry kits and teacher resources free of charge through our Teacher Leadership Center and/or participate in a hands-on Nature Museum program for you and your students at your school through

Nature on the Go or **Science on the Go**.

Visit naturemuseum.org/education to learn more about these programs.



student FAQs about collections

“Is it REAL?!”

Students often use the terms “real” and “alive” interchangeably, so using both terms in responding to their questions is powerful. Most of the specimens seen mounted in the Nature Museum are real animals, but they are no longer alive. For example, “the coyotes are real and used to be alive, but they are no longer living.”

“Why did they kill it?”

Many of the specimens in the Chicago Academy of Sciences’ collections are from 1850–1950, when it was common for scientists to kill animals in order to learn more about them. Today, we keep conservation in mind and try to minimize impacts on natural ecosystems by using observational data along with incidental collecting. Incidental collecting means we collect specimens that are already dead when we find them.

“Why does the Museum have these animals?”

The Nature Museum’s collections are used by scientists and others to study natural environments and the living things in this region. The specimens in our natural history collection are like physical snapshots in time. They record data that cannot be reproduced. In many cases, questions that can be answered by the specimens were not anticipated when the specimens were collected.

To find out more about how scientists collect and preserve specimens, visit Beecher Collections Laboratory in the Wilderness Walk exhibition on Level 2.

“What else does the Nature Museum have?”

Less than 5% of the Museum’s collection is actually on display at the Nature Museum. The other specimens and artifacts (almost 390,000 of them!) are stored in an offsite facility and used by scientists from around the country for research.



field trip workshops

Want to enhance your field trip experience? Look no further!

Register for creative, hands-on science and nature workshops at the Nature Museum to enrich student learning outside of school. All workshops are taught by an experienced museum educator and correlate with the Next Generation Science Standards. Titles and descriptions of available workshops are listed below. Workshops are 45 minutes unless otherwise noted.

PRE-K AND K

Nature is Sense-ational | NGSS: ESS3

Awaken your senses and embark on an outdoor adventure! Join a Nature Museum educator on an exploration of the Museum grounds. Students will discover the sights, sounds, feels, and smells of nature in the city!

Bugs Alive | NGSS: LS1, ESS3

Observe live insects from the Nature Museum's collections! Students will learn more about the ways that these animals move, eat, and protect themselves from danger. Each student will have the opportunity to compare and contrast several different live insects.

Secret Gardeners | NGSS LS1, ESS3

Create a seed pocket to take back to your school! Students develop an appreciation for local nature as they learn about planting seeds through hands-on activities that highlight how native plants grow and how they are important to animals, including humans.

GRADES 1, 2, AND 3

Habitat Explorers | NGSS: LS1, LS3, LS4

Go outside and explore prairie, pond, and wooded habitats on the Nature Museum grounds! Students will practice making careful observations as they examine plants and animals in various outdoors areas. Students will compare and contrast the different elements of each habitat including the plants and animals that live in each.

Animals Up Close | NGSS: LS1, LS3, LS4

Meet two live animals from the Nature Museum's collections! Students will observe the animals' features and movements and use critical thinking skills to compare and contrast the animals' bodies, behaviors, and habitats.


Metamorphosing Monarchs | NGSS: LS1, LS3, LS4

Watch a classmate transform into a butterfly! Students will become butterfly scientists and learn about the body parts and life cycle of butterflies. They will also create their own butterfly life cycle models to take home and use to teach others what they know.

A Seed's Journey | NGSS: LS1, LS2

Find out how seeds travel from one place to another! Students observe real seeds and do hands-on investigations to compare and contrast the ways that these seeds move. Students will also record their observations and results in journals to take back to school.



 **Outdoor Workshop**
(available from May 1 – October 31)
Please note that outdoor workshops will be taught rain or shine (excluding dangerous weather conditions). Please make sure that you and your students are dressed appropriately and prepared to spend 45 minutes outdoors.

field trip workshops

GRADES 4 AND 5

Ecology Rangers | NGSS: LS1, LS2, LS4, ESS3

Go outside and observe prairie, wetland, and urban woodland ecosystems! Students will increase their knowledge of Illinois ecosystems by observing living and non-living things on the Nature Museum grounds and by evaluating how the parts of each system interact and work together.

Worm Investigations | NGSS: LS1, LS2, ESS3

Get an up close look at the red worms that work at the Nature Museum! Students will observe red worm behavior and investigate their environmental preferences. Students learn how these worms can recycle food and paper waste and then practice classifying items that can and cannot be fed to red worms in a compost bin.

Exploring Butterfly Conservation | NGSS: LS1, LS2, ESS3

Observe and compare rare and endangered Midwest butterflies, including metalmarks, checkers-spots, and fritillaries! Students will learn about the characteristics of native butterfly habitats and the Nature Museum's conservation research initiatives. By reviewing basic butterfly biology and exploring the unique needs of local butterflies, students gain an understanding of how people impact Midwestern butterfly populations.



GRADES 6 - 12*

Amazing Biodiversity (90 minutes) | NGSS: LS2, LS4

Compare the biodiversity of different outdoor areas on the Nature Museum grounds! Students use sampling, systematic observation, and data collection techniques to gather information about the plants present in each location. By graphing, analyzing, and comparing data, students will determine species richness and biodiversity in the two areas.

Interpreting Ecosystems | NGSS: LS2, ESS3

Get outdoors and investigate various urban ecosystems on the Nature Museum's Nature Trails! Students will observe and record the diversity of living things in two of Illinois' most dominant natural environments. By considering the changes in these natural areas over time, students will evaluate the roles humans play as a part of these prairie and lawn ecosystems.

What's the Buzz about Bees? | NGSS: LS1, LS2, LS4, ESS3

Examine various bee specimens from the Nature Museum's collection! Students will analyze data to determine trends in bee populations, explore pollination behaviors, and reflect on current conservation efforts.

H₂O Investigations | NGSS: LS2, ESS3

Find out what the invertebrates found in water *really* say about the water's quality! Students learn about water quality indicators, tolerant and intolerant species, and citizen science initiatives while identifying preserved macroinvertebrates. Students then use their findings to analyze the health of a water sample.



*Programs are modified appropriately for the grade level indicated by the teacher on the registration form.

map + guiding questions level 1

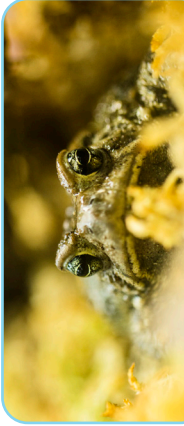


MYSTERIES OF THE MASH

See live, local endangered species—including Blanding's turtles and a Massasauga rattlesnake—in this wetlands focused exhibit. Discover why wetlands, which are home to nearly two-thirds of the endangered species in Illinois, are so important to our everyday lives, and learn about the Museum's Blanding's turtles conservation work.

What things would you have to consider when raising butterflies in a lab?

What strategies does the Nature Museum use to help the Blanding's turtles?



ISTOCK FAMILY LOOK-IN LAB

View the Museum's living collections—including local reptiles, amphibians, and invertebrates—on display in this laboratory. Witness the day-to-day work of the museum biologists and volunteers who care for these animals, which are used in exhibits and for educational programs at the Museum.

Compare and contrast the different types of animals in the look-in lab.

What different habitats are represented?



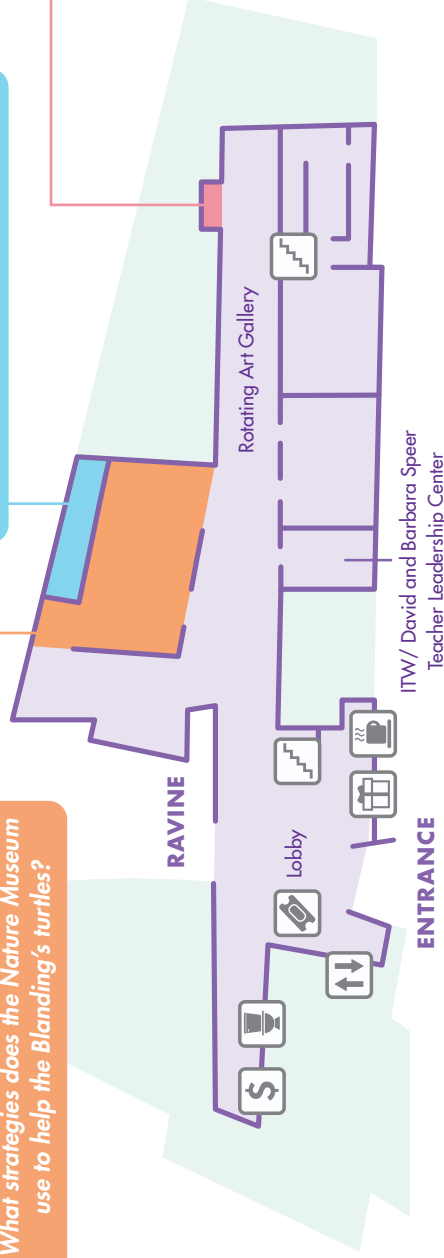
ISTOCK FAMILY BUTTERFLY CONSERVATION LAB

Get an up-close look as Museum biologists raise rare and endangered butterflies. These butterflies are released at restored habitats in the Chicago region as part of ongoing conservation efforts. Read Museum biologists' notes on the current progress of these conservation efforts, and during the summer, look into the lab and see the caterpillars, chrysalides, and butterflies.

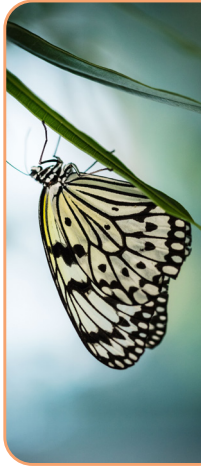
What things would you have to consider when raising butterflies in a lab?

What does it mean for a butterfly to be rare or endangered?

Use this map and guiding questions to facilitate meaningful in-exhibit discussions!



map + guiding questions level 2



JUDY ISTOCK BUTTERFLY HAVEN

Walk among more than 35 species of exotic butterflies and moths and 12 stunning bird species in a 2,700 square-foot greenhouse filled with lush tropical flowers and trees. The Haven is home to nearly 1,000 live butterflies, including some never seen before in our region. As you exit the Haven, watch live butterflies from around the world emerging from their chrysalides, and learn more about the way butterflies live.

What butterfly behaviors do you notice happening in the haven?

Compare and contrast butterflies and moths.

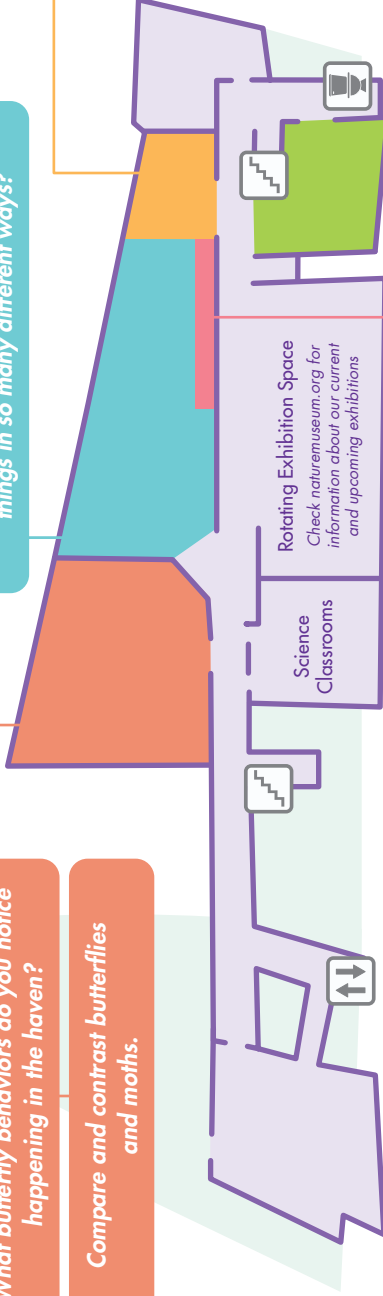


WILDERNESS WALK

Take a stroll through recreated prairie, savanna, and dune habitats. These life-size dioramas are complete with accurate lighting and sounds, models of native plants, and preserved animals from the Museum's collections. The *Beecher Collections Demonstration Laboratory*, part of *Wilderness Walk*, shows how scientific specimens are prepared and displayed.

Compare and contrast the plants and animals in each of the three habitat diorama.

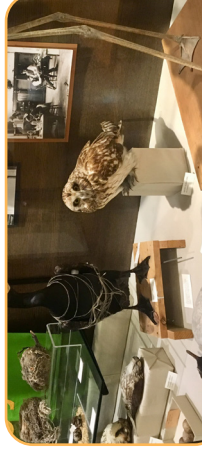
Why do you think the museum preserves things in so many different ways?



NOT PICTURED: MICOLE BIRDWALK (LEVEL 3)

Observe birds living in various habitats around the Museum. Listen to bird calls at interactive kiosks, use our scopes to spot birds, and learn about foot and beak adaptations. The birdwalk also provides great views of our rooftop garden, which regulates building temperature, reduces runoff, and provides a healthy habitat for plants and animals.

Why might Chicago and Lincoln Park be an important location for migrating birds?



HERITAGE OF THE CHICAGO ACADEMY OF SCIENCES

Learn about the rich history of the Chicago Academy of Sciences, the parent organization of the Peggy Notebaert Nature Museum. View artifacts and specimens from our 150+ year-old collections, and watch a video of the history of the Academy and some of its oldest programs.

Why might it be important for a museum to keep these non-living collections?

BIRDS OF CHICAGO



View 115 preserved specimens from the Museum's collections to learn about native Illinois birds. Many of these specimens date back to the early 1900s and range in age, size, color, and rarity. The exhibition showcases woodland, grassland, and wetland birds as well as birds that have adapted to urban environments. Touch screens provide more information about the specimens and about birds in Chicago.

What habitat might each bird live in?

Compare and contrast the different birds you see on the wall

nature trails map

Don't worry about being able to identify everything you see!

Visiting the outdoor space is about making careful observations, comparisons, and connections. If necessary, prompt students with questions, such as:

"Why do you think you see this happening here?"

"Where have you seen something like this before?"

"What else do you notice this looks like?"

- Legend**
-  nature trail
 -  accessible path



BIRD GARDEN

Many birds travel through Chicago as they migrate to different locations throughout the year. This bird garden is planted with trees, shrubs, and groundcover that offer food, protection, and nesting sites to birds in the area.

ELIZABETH PLOTNICK TALLGRASS PRAIRIE

Prairies are home to many grasses and wildflowers but very few, if any, trees. Fires help to control the growth of non-prairie plants like trees. Prairie plants survive these fires because their growing buds are below ground.

PICKERELWEED POND

This small wetland provides a home for plants, animals, and other living things. It gets its name from a flowering wetland plant known as pickerelweed. Invertebrates such as dragonflies, beetles, and snails, and vertebrates such as Canada geese and tadpoles, can often be found in this small pond.

BUR OAK SAVANNA

Savannas are grasslands with scattered trees. Fire-resistant bur oak trees are speckled throughout this savanna, providing a mix of sun and shade for the plants that grow beneath them.

NORTH POND OBSERVATION PIER

The pier overlooks the North Pond Nature Sanctuary, a vibrant wetland right in the middle of Lincoln Park. It is a vantage point for the over 200 resident and migratory bird species, the 100 native plant species and the thousands of insects, mammals, reptiles, and amphibians that live here year-round.

WOODY WICKHAM BUTTERFLY GARDEN

The flowers in this garden provide nectar to butterflies, other insects, and birds that are attracted by the flowers' bright colors and scents. This garden also contains host plants, or specific plants on which butterflies will lay their eggs.

PARKLAND

This parkland has a traditional lawn area and many scattered shade trees. Several bird feeders attract birds and squirrels to this area.

BLACK OAK SAND SAVANNA

In a savanna, trees (in this case, black oak trees) grow scattered among the grasses and wildflowers. The plants in the black oak sand savanna are growing in sandy soil that was once a sand dune on Lake Michigan's shore.

URBAN VEGETABLE GARDEN

The edible plants in this garden — onions, herbs, tomatoes, and more — grow well in the Chicago area. Our horticulturists start planting seeds in the early spring and keep the harvest going all through the growing season.



focused field trips

Focused field trips connect student learning in the classroom with their field trip experience.

Research has shown that taking students out of the classroom on field trips can provide rich, phenomena-oriented experiences to engage your students in inquiry-based learning¹. By incorporating pre and post-visit activities in the classroom along with a worksheet or activity to focus attention during the field trip, you can help students make connections between the classroom and the field trip in order to enhance their learning.

Before the Trip

Activities to **prepare** students

At the Museum

Activities that **focus** student attention and **create** connections

After the Trip

Activities that **connect** all of the learning together

Since you and your students will visit all of the Nature Museum's exhibitions on the day of your field trip, we recommend basing your field trip around a focused theme. This guide includes four possible themes that tie many of the Museum's exhibitions together, along with corresponding resources to use in your classroom and at the Museum during your visit. We've also included a graphic organizer to use to customize your own focused field trip theme.

For each theme provided you will find:

- **BIG IDEAS** to guide you before, during, and after your visit
- **PRE-VISIT ACTIVITY SUGGESTIONS** for use before your field trip
- A field trip **WORKSHEET**, including a graphic organizer for your students to use at the museum
- **POST-VISIT ACTIVITY SUGGESTIONS** for use once you've returned to the classroom
- Relevant **NEXT GENERATION SCIENCE STANDARDS (NGSS)** Disciplinary Core Ideas

Although each big idea may be differentiated for different grades, the activities and workshops are best suited for the grades listed. When you register for your field trip, select a focused field trip theme on your registration form to receive the corresponding tour card when you arrive.

1. Hein, G. E. (1998). *Learning in the Museum*. London: Routledge.

Hein, H. (2000). *The Museum in Transition*. Washington, DC: Smithsonian Institution Press.

insects & more

BIG IDEA

Each invertebrate's body and behaviors help it live in its environment.

Over 97 percent of the world's animals are invertebrates—animals without a backbone. Invertebrates come in all shapes and sizes—from butterflies, cockroaches, and honey bees to spiders, centipedes, and crabs. Animals that do have a backbone—like birds, fish, bears, cougars, turtles, snakes, and frogs—are called vertebrates.

Before the Trip

Print out photos of various animals.

Be sure to include insects, spiders, worms, birds, mammals, fish, reptiles, and amphibians. Have students sort the animals into groups, and give them time to discuss the way they organized the photos. After students have created and discussed their own categories, explain that scientists often classify animals according to whether or not they have a backbone.

As a class, sort the photos according to these categories and introduce the terms vertebrate and invertebrate. (Have students put insects, spiders, and worms into the invertebrate category and everything else into the vertebrate category.)

Review expectations for field trip behavior. If appropriate, introduce any activities students will complete during their field trip visit (e.g. completing a field trip worksheet) and review any relevant directions and vocabulary.

*Enhance your field trip with a workshop!
Turn to page 6 for more information.*

At the Museum

Observe invertebrates in their environments.

At group check-in, each class will be provided with a custom tour card to assist them on their self-guided visit through the Museum. The custom tour card will call attention to whole exhibits as well as specific exhibit components that best support this field trip theme.

Attached and included in your e-mailed field trip packet is a worksheet (best suited for students in grades Pre-K—grade 2) developed by Nature Museum educators. Please feel free to print this worksheet and have your students bring it on the day of your visit.

After the Trip

Each student will create at least one card for an invertebrate that he/she observed at the museum.

Refer back to the pre-visit activity. Have students develop categories that they will use to sort their invertebrate cards. Sort the cards according to their categories.

Educator note: You may wish to have students include the invertebrate's environment on each card to provide greater variety when sorting. You may also wish to challenge your students to come up with another set of categories for sorting to reinforce the idea that there are many ways to classify living things.

***insects & more** worksheet*

Most of the world's animals are invertebrates—animals without a backbone. Invertebrates come in all shapes and sizes, from butterflies, cockroaches, and honey bees, to spiders, centipedes, and crabs.

DIRECTIONS

In two different exhibits, choose at least one invertebrate that you see. Look closely to observe the invertebrate and its environment.

Invertebrates _____ Exhibit _____

*Draw and write about the animal **and** its environment*

Invertebrates _____ Exhibit _____

*Draw and write about the animal **and** its environment*

How are these invertebrates similar? _____

How are these invertebrates different? _____

midwest ecosystems

BIG IDEA

The living things that are part of prairie, woodlands, and wetland ecosystems interact with each other and the non-living things around them.

The Midwest is a geographic area of the United States that is made up of twelve states including Illinois. An ecosystem includes all of the plants, animals, and other living things in an area as well as their non-living physical surroundings (light, soil, water, wind, temperature). Studying ecosystems includes exploring interactions among and between living and non-living things, for example in food chains. In the Midwest, there are at least three major ecosystems: prairies, wetlands, and woodlands.

Before the Trip

Show students pictures of local prairie, woodland, and wetland ecosystems.

Have students describe major characteristics of each ecosystem type. Define interactions. Guide students to brainstorm types of interactions that might be observed in an ecosystem (e.g. competition for food or shelter, pollination, physical contact, etc.).

Review expectations for field trip behavior. If appropriate, introduce any activities students will complete during their field trip visit (e.g. completing a field trip worksheet) and review any relevant directions and vocabulary.

*Enhance your field trip with a workshop!
Turn to page 6 for more information.*

At the Museum

Observe plants, animals, and non-living things that are part of prairie, woodland, and wetland ecosystems.

At group check-in, each class will be provided with a custom tour card to assist them on their self-guided visit through the Museum. The custom tour card will call attention to whole exhibits as well as specific exhibit components that best support this focused field trip.

Attached and included in your e-mailed field trip packet is a worksheet (best suited for students in grades 3–8) developed by Nature Museum educators. Please feel free to print this worksheet and have your students bring it on the day of your visit.

After the Trip

Have each student choose one of the ecosystems observed at the museum.

Place students in groups of 3 or 4 people and assign each to focus on one of the ecosystems. Have each student choose one living or non-living thing that he/she observed as part of that ecosystem. Each student in the group should choose something different. Provide each group with a large piece of paper, and have each student draw what he/she chose in one of the corners.

As a group, students should draw arrows between these living and non-living things and write how they interact with each other. Students can fill in the background of their paper with drawings and labels of the other observations they made of their

Next Generation Science Standards

NGSS: LS2.A – Interdependent relationships in ecosystems

midwest ecosystems worksheet

An ecosystem includes all of the plants, animals, and other living things in an area, as well as their non-living physical surroundings (light, soil, water, wind, temperature). Studying ecosystems includes exploring interactions among and between living and non-living things, for example in food chains. In the Midwest, three of our major ecosystems are prairies, wetlands, and woodlands.

DIRECTIONS

Find examples of prairie, wetland, or woodland ecosystems at the Nature Museum. Choose two ecosystem examples each from a different exhibition. Draw and write what you observe about each ecosystem. Be sure to record the plants, animals, and surroundings (e.g. light, soil, water, wind, temperature).

Exhibit: _____

Ecosystem (circle one): Prairie Woodland Wetland

Exhibit: _____

Ecosystem (circle one): Prairie Woodland Wetland

What do these ecosystems have in common? _____

What types of interactions occur in both ecosystems? _____

conservation

BIG IDEA

Humans have various impacts on nature, and people are working to preserve, restore nature, and use natural resources carefully.

Across the world, people and organizations are involved in conservation efforts to preserve and restore nature and use natural resources—materials used by humans that come from the natural world—carefully. Anyone can be a part of conservation efforts by adopting environmentally-friendly behaviors such as reducing waste, using energy efficiently, and interacting with the environment in a respectful way.

Before the Trip

Have students select various items from the classroom and trace the items back to plants, animals, or other natural resources that were needed to make them.

Discuss how humans are connected to and are a part of nature. Review expectations for field trip behavior. If appropriate, introduce any activities students will complete during their field trip visit (e.g. completing a field trip worksheet) and review any relevant directions and vocabulary.

*Enhance your field trip with a workshop!
Turn to page 6 for more information.*

At the Museum

Identify examples of conservation. Observe what people are doing and what can be done to preserve and restore nature and use natural resources carefully.

At group check-in, each class will be provided with a custom tour card to assist them on their self-guided visit through the museum. The custom tour card will call attention to whole exhibits as well as specific exhibit components that best support the theme of this focused field trip.

Attached and included in your e-mailed field trip packet is a worksheet (best suited for students in grades 3–12) developed by Nature Museum educators. Please feel free to print this worksheet and have your students bring it on the day of your visit.

After the Trip

Have students share the conservation efforts they learned about at the museum.

Each student will make a poster to raise awareness about one conservation effort. To support what they've illustrated on their posters, students can choose to create a comic strip, write (or perform) a poem or song, or create a news story (recorded or written) about the conservation effort they choose.

Next Generation Science Standards

NGSS: ESS3.C – Human impacts on earth systems

conservation worksheet

Across the world, people and organizations are involved in conservation efforts to preserve and restore nature and use natural resources carefully. Anyone can be a part of conservation efforts by adopting environmentally-friendly behaviors such as reducing waste, using energy efficiently, and interacting with the environment in a respectful way.

DIRECTIONS

Find examples of conservation in two different exhibitions at the Peggy Notebaert Nature Museum. For each exhibition, draw and write about the conservation efforts and what people hope will happen because of them.

EXHIBITION: *Mysteries of the Marsh*

What efforts are people making to preserve and restore nature?	What do these people hope will happen as a result of their actions?
--	---

EXHIBITION (CIRCLE ONE): Istock Family Butterfly Conservation Lab, Micole Birdwalk (to view rooftop garden & solar panels), Nature Trails

What efforts are people making to preserve and restore nature or use natural resources carefully?	What do these people hope will happen as a result of their actions?
---	---

What is similar about the conservation efforts you learned about?

collections & specimens

BIG IDEA

Collections and specimens can be used for research, education, and enjoyment and allow people to have an up-close look at something that they couldn't otherwise access.

Collections are an essential part of a museum's research and education functions, and they also serve an important role in environmental conservation efforts. Specimens—individual pieces from a collection—can be excellent tools for connecting people to a topic of study or interest, whether they're displayed in a museum or used in educational programming. They also allow people to have an up-close look at something that they couldn't otherwise access. Preserving and displaying specimens in different ways can tell us different things about the lives of the plants and animals in a collection.

Before the Trip

Have students share an example of something they collect (or something someone they know collects) and explain why they collect those things.

Review the idea that people collect for many reasons, including for enjoyment, to learn, to see change over time, or to preserve the past.

Ask students what the museums that they know of collect (e.g. art, living animals, fossils, wax figures, etc.) and why they think each museum collects what it does. Explain to students that they'll be going to the Nature Museum where they'll focus on how collections can be preserved and presented in different ways by looking at local animal specimens from the museum's collections.

*Enhance your field trip with a workshop!
Turn to page 6 for more information.*

At the Museum

Identify and observe animal specimens from the Museum's collections that are preserved in different ways, and evaluate what could be learned about the animals' lives.

At group check-in, each class will be provided with a custom tour card to assist them on their self-guided visit through the Museum. The custom tour card will call attention to whole exhibits as well as specific exhibit components that best support the theme of the this focused field trip.

Attached and included in your e-mailed field trip packet is a worksheet (best suited for students in grades 6–12) developed by Nature Museum educators. Please feel free to print this worksheet and have your students bring it on the day of your visit.

After the Trip

Have students collect natural objects from outside.

Students should develop a display for their collection that explains what can be learned from their collection and the way it has been preserved. Students should include identification information and date and location where each specimen was found.

Other students observing each collection should be able to answer the same question students answered at the Museum, "What can you tell about the specimen and the way it interacted with its environment?"

Have students share their collections with the class or with other classes at school and discuss how preserving things in different ways can teach us different things about natural objects and their environments.

Next Generation Science Standards

NGSS: LS1.A – Structure and function
NGSS: LS2.A – Interdependent relationships in ecosystems
NGSS: LS3.2 – Variation of traits

collections & specimens worksheet

DIRECTIONS

Find at least one animal specimen from the Nature Museum's collection that is preserved in each of the different ways described below. Draw and label the specimen and think about what we can learn about the life of each animal from the way it is preserved and displayed.

Animals prepared (taxidermied) as a **MOUNT** to look just like they did when they were alive:

What can you tell about the life of the animal and the way it interacted with its environment?

Animals prepared (taxidermied) as a **STUDY SKIN** where the body lies flat so that many specimens can be kept together in a drawer:

What can you tell about the life of the animal and the way it interacted with its environment?

Insects **DRIED AND PINNED** in a position where their body parts can be seen:

What can you tell about the life of the animal and the way it interacted with its environment?

BONES preserved and put together to study what the inside structure of the animal looks like:

What can you tell about the life of the animal and the way it interacted with its environment?

What are some differences between learning from real animals that are preserved and learning from real animals that are alive?

What can you learn best from a living animal, and what can you learn best from a preserved animal?

Name: _____

customize your own

BIG IDEA

Before the Trip

What kinds of activities can you do to prep the students for the learning that will happen at the Museum?

At the Museum

Learning Objective:

Exhibit(s) of Focus:

What open-ended questions could you use help students get at the desired learning?

How could you create an activity and/or graphic organizer to support the objective?

After the Trip

What kinds of activities can you do to have students reflect on what they learned/experienced? How can they share what they have learned from others?

registration

How to Register

Visit naturemuseum.org/fieldtrip to complete an online registration form. For more information or for special requests, e-mail fieldtrip@naturemuseum.org.

Cost & Payment

Illinois schools (K-12), Preschools located within an Illinois elementary school, and Illinois Head Start groups **receive free student admission**. Non-Illinois school groups receive a discounted admission of **\$8/student**.

Adults, including chaperones and teachers, are allowed for free based on a 1:5 (grades Pre-K–3) and 1:10 (grades 4-12) adult–student ratio.

Field Trip Workshops

For more information on enhancing your trip with a field trip workshop, see pages 6 & 7.

- Kindergarten—grade 12 workshops have a maximum of 30 participants, and Pre-K workshops have a maximum of 20 participants. Groups with workshops containing more than 30 K–12 students or 20 Pre-K students without prior approval will be charged for an additional class.
 - \$175/45-minute workshop.
 - \$200/90-minute workshop.
 - Payment is due 30 days before the date of the visit or programs will be canceled.

Focused Field Trips

If you would like to plan a focused field trip (pages 11–20), be sure to select the theme on your registration form to receive the corresponding tour card when you arrive at the Museum.

Exclusive Butterfly Release

If you would like to make your trip unforgettable by releasing a butterfly for its very first flight, **Exclusive Butterfly Release** costs **\$15/class**.

Educators are always free!

Educators in Illinois can enjoy free admission to the Nature Museum any day of the week. Additionally, all Illinois residents receive free admission every Thursday on our suggestion donation days.



2430 N Cannon Drive • naturemuseum.org/fieldtrip

