

2025-2026

Discovery

Series RESOURCE GUIDE



DAYTON LIVE

Your Home for Arts,
Culture & Entertainment

Friday, Nov. 14, 2025
9:30 & 11:30 a.m.
Victoria Theatre

Welcome to the 2025-2026 Discovery Series at Dayton Live. We are very excited to be your education partner in providing professional arts experiences to you and your students!

Science is his jam! Children's author, musician, and YouTuber Lucas Miller (*who really does have a zoology degree*) is on a mission to cultivate and nurture young scientists! His creative videos, smart songwriting, and energetic teaching delight animal lovers of all ages. **THE SINGING ZOOLOGIST** gets audiences giggling and grooving while they learn about metamorphosis, wetlands, ocelots, and more. Kids adore his live-wire energy and adults love the wealth of science he weaves into each song and story.

The information and activities in this guide have been carefully crafted to help you and your students explore the many ways a live theatre experience can create endless learning opportunities. Grade level icons will help you determine which activities are good for your students, too. Don't forget to take advantage of the local resources listed to extend the play-going experience and make even more curricular connections for you and your students. Thank you again, and welcome!



The Education & Engagement Team

Curriculum Connection

Grades
Pre-K-5

You will find these icons listed in the resource guide next to the activities that indicate curricular connections. Teachers and parents are encouraged to adapt all of the activities included in an appropriate way for your students' age and abilities. **THE SINGING ZOOLOGIST** fulfills the following Ohio State Standards and Benchmarks for Pre-K through 5th grades:



Learning Standards Related to THE SINGING ZOOLOGIST

Fine Arts: K.1CR; K.1PE, K.5PE, 1.5PE; K.4RE, K.6RE, 1.4RE, 1.6RE, 2.4RE, 2.6RE, 3.6RE, 4.6RE, 5.6RE; K.2CO, K.3CO, 1.2CO, 1.3CO, 2.2CO, 2.3CO, 3.2CO, 4.2CO, 4.3CO, 5.2CO, 5.3CO

Science: 1.ESS.1; K.LS.1, K.LS.2, 1.LS.1, 1.LS.2, 2.LS.2, 2.LS.2, 3.LS.1, 3.LS.2, 3.LS.3, 4.LS.1, 5.LS.1

Social Studies: K.GS.7, 1.GS.5, 2.GS.7

ELA: RL.K.5; RI.K.1, RI.1.1, RI.1.5, RI.1.6; W.K.2, W.K.8, W.1.8, W.2.8

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Sources used throughout the guide:

The Broward Center, Nat Geo Kids, The Singing Zoologist, PBS Learning Media, Time For Kids, Britannica Kids, Florida Fish & Wildlife Conservation Commission, U.S. Department of Agriculture

Pre-Show Conversation Starters

Get excited for your trip to the Victoria Theatre by checking out this video!

- 1** Pickle Jean, our Audience Etiquette Monitor, helped us learn about BRAVO. Do you remember what each letter stands for?
- 2** Based on this video, what are some ways you can be the best audience member you can be?
- 3** How can you as an audience member help the performers onstage do the best job they can for you?
- 4** Is this your first visit to a theatre? If so, what are you most looking forward to?



About Lucas

Lucas has spent his whole life loving nature and music! He has a Zoology degree from Miami University, and learned guitar and songwriting after mastering the saxophone.

Lucas Miller has a Zoology degree! He graduated with a B.A. in Zoology from Miami University. Lucas has shared his love of wildlife with students and has presented for over two MILLION kids! Better known as the “singing zoologist,” he has been literally singing the praises of wildlife since.



His zany humor, smart songwriting and unbridled passion for science inspire his fans, young and old, to respect and protect the natural world.

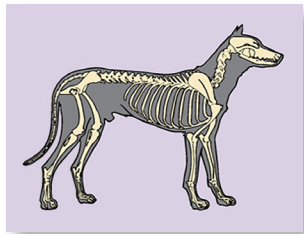
Courtesy of:

<https://www.browardcenter.org/assets/doc/CC-25-26-Bite-Size-Science-The-Singing-Zoologist-Life-Cycles-95d1f7eac9.pdf>

Vocabulary to Know

HABITAT – the natural home or environment where a plant or animal lives.

ECOSYSTEM – an ecosystem is made up of all the living and nonliving things in one area. All of the plants, animals, soil, etc., interact and rely on each other to live and succeed.



examples are fish, frogs, birds, and dogs.

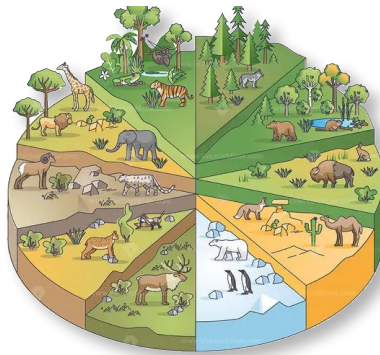
INVERTEBRATE – an animal that doesn't have a backbone. They don't have any hard bones in their bodies like humans do. Some examples are insects, crabs, worms, and octopuses.



MAMMALS – are vertebrates with hair or fur, breathe air with lungs, are warm-blooded, and feed their babies milk. Examples of mammals are: humans, dogs, dolphins, and bats.



BIRDS – vertebrates that have feathers and lay eggs. Not all birds can fly!



VERTEBRATE – an animal that has a backbone, (*a spine*), just like a human that help them stand up straight. Some

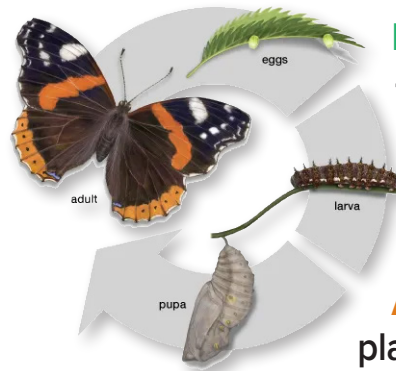
AMPHIBIANS – live on water and land, have smooth skin, (*sometimes slimy*), and lay eggs in water. Examples: frogs, salamanders, and axolotls.

REPTILES – have dry, scaly skin made of the same stuff our fingernails are made of. They lay eggs and are cold-blooded.

Reptiles you may know are lizards, turtles, snakes and alligators.



FISH – live in water, use gills to breathe, are covered in scales, and lay eggs underwater. A few examples of fish are goldfish, sharks, and piranhas.



METAMORPHOSIS – is the process some animals go through when their bodies change as they grow.

ADAPTATIONS – all plants and animals have certain traits that help them to survive and live in their environments. For example, an animal that lives in the desert doesn't need fins or webbed feet to swim in water as deserts are very dry.

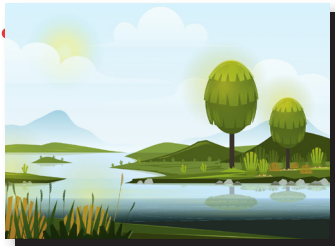
EXTINCT/ EXTINCTION – an animal may be declared extinct when the entire species dies out from the world's population.



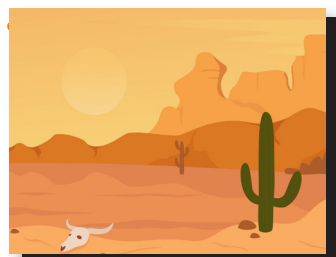
Let's Explore Some Habitats

There are lots of types of habitats in our world – let's check out just a few!

.....
Wetlands are areas where the land is covered in water for most of the year or is fully flooded. They're pretty muddy and buggy! Think of it as the space between bodies of water and the land, and they can be freshwater or saltwater. Some examples of these environments are swamps, marshes, and bogs.



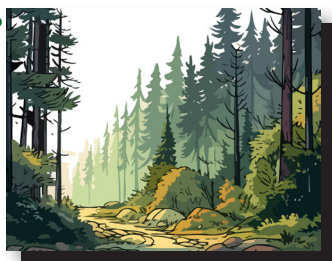
- ▶ Plants in wetlands are able to grow in the water - marshes have all the grasses and leaves. Swamps are dominated by trees.
- ▶ Marshes and swamps are the bigger body of water in a wetland. Bogs aren't as deep and have more soils.
- ▶ **Wetlands protect us from floods!** They kind of act as a plant-y barrier that help absorb the power of any waves that wash ashore on saltwater coasts.
- ▶ You'll see lots of living creatures like deer, many bird species, frogs, and reptiles.



.....
Deserts are the driest places on earth. They are defined by how little rain they get; **less than 10 inches a year!** Because they are so dry, you might think that nothing really lives there, but there is a lot of life. The plants and animals that dwell there have adapted to survive in climates without much water and a whole lot of sun.

- ▶ They can be very cold at night but can get up to 100 degrees Fahrenheit.
- ▶ Not all deserts are alike. The biggest desert in the world...is Antarctica!
- ▶ Deserts you may have heard of before: Gobi in Asia, the Sahara in Africa, and the Mojave in the United States.

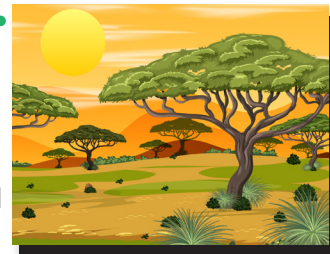
.....
Forests have **LOTS** and **LOTS** of trees! Temperate forests, which you see here in Ohio, can be found where temperatures are more mild. Forests are full of trees with leaves that change colors in the fall and lots of creatures big and small. You will find many forests here in Ohio.



Bonus Local Exploration Resource: *Exploring the Forest* | *Nature Camp* | *PBS LearningMedia*

- ▶ Forests are found where the seasons change temperature annually, and the life there adapts to each change.
- ▶ Forest animals you might see in your backyard: squirrels, chipmunks, butterflies, and sparrows.
- ▶ Because of the seasonal weather changes, animals in temperate forests have really had to adapt to survive in all kinds of weather.

.....
Grasslands are between a desert and a forest; they get more rain than a desert, but a lot less than a forest. Plants mostly consist of grasses that don't need as much rain as other habitats. Grasslands are typically found more in the middle, drier areas of the continent.



- ▶ You can find grasslands in every continent but Antarctica
- ▶ Grasslands are called by a few different names depending on where you live: savannas, steppes, prairies and rangelands.
- ▶ Grasslands can have extreme weather. The wind and dry climate allow for dust storms, tornadoes and wildfires.

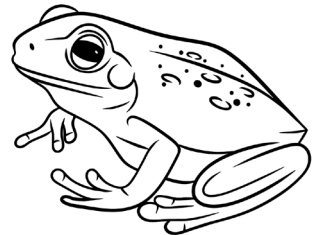
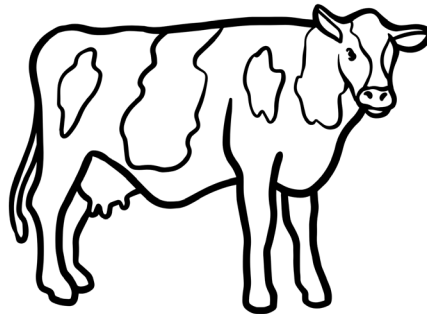
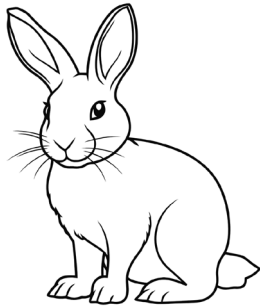
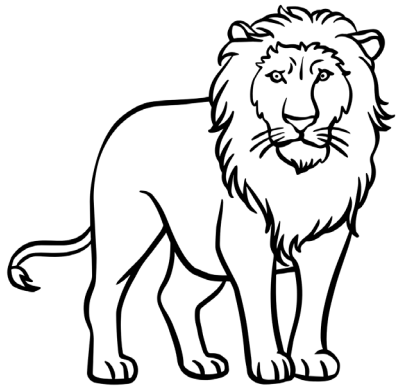
.....
Rainforests are **very important ecosystems** and are the home habitat to some **really awesome animals**. Rainforests, as you can guess by the name, get a lot of rain - **up to 8-10 feet a year!** This habitat is warm, full of leafy plants and massive trees. Rainforests are incredibly important and provide so many plants and resources we use in our everyday lives. Some folks call the rainforests the "lungs" of the earth.



- ▶ It can take 10 minutes for a raindrop to travel to the forest floor from the lush rainforest canopy.
- ▶ A rainforest is made up of 4 layers: emergent, canopy, understory and forest floor.
- ▶ More than half of the worlds animals can be found living in the rainforest.

Carnivores, Herbivores & Omnivores...OH MY!

Draw a line to match each animal to its diet.



CARNIVORE

Animals that only eat meat or other animals.

HERBIVORE

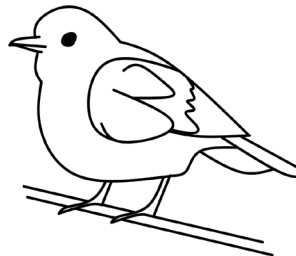
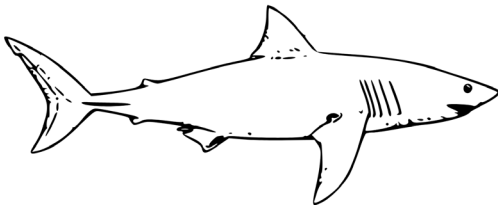
Animals that eat plants, like grass, fruits & leaves

OMNIVORE

Animals that eat plants (fruits & leaves) and animals (meat) as well.

INSECTIVORE

Animals that mostly eat insects. Bugs are their main food source



Reptile Roundup

WHAT'S A REPTILE

Reptiles are cold-blooded vertebrates that have dry, scaly skin.

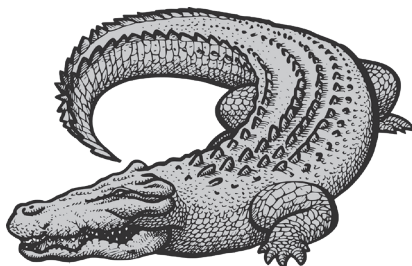
Fast Facts

- ▶ They hatch from eggs
- ▶ Have scales for covering
- ▶ Use lungs to breathe
- ▶ Usually do not care for their young

Let's talk about a few popular reptiles you may know!

Alligators

- **Habitat:** fresh water lakes and wetlands stretching across southeast Oklahoma and Texas all the way through North Carolina.
- **What they eat:** Alligators are carnivores and eat prey that are easily accessible. Young ones eat insects, amphibians, and fish. Adults eat bigger fish, snakes, and other reptiles and mammals.
- **Their young:** They are very protective of their babies! Mother's stay close to their egg's nest and care for them long after they hatch.



Fun Fact

- ▶ Alligators can live up to 50 years in the wild!

Turtles (freshwater)

- **Habitat:** the south-eastern United States, especially Florida that has over 30 native species. They spend time both on land and water, preferring shallow waters like ponds and lakes.
- **What they eat:** Freshwater turtles are omnivores and eat a mix of invertebrates, fish, and water plants.

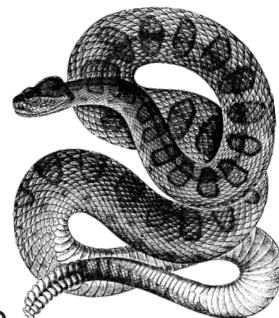


Fun Fact

- ▶ Turtles have existed for 220 million years!

Snakes

- **Habitat:** Snakes in the U.S. live in many different habitats such as forests, swamps, deserts, and both salt and fresh water.
- **What they eat:** Snakes are carnivores and eat prey like mammals, birds, eggs, and even other snakes!



Fun Fact

- ▶ Most snakes you encounter are not poisonous!

All About Reptiles

Complete the charts on the next page using one of the reptiles from the Reptile Roundup, or share some facts of your own!

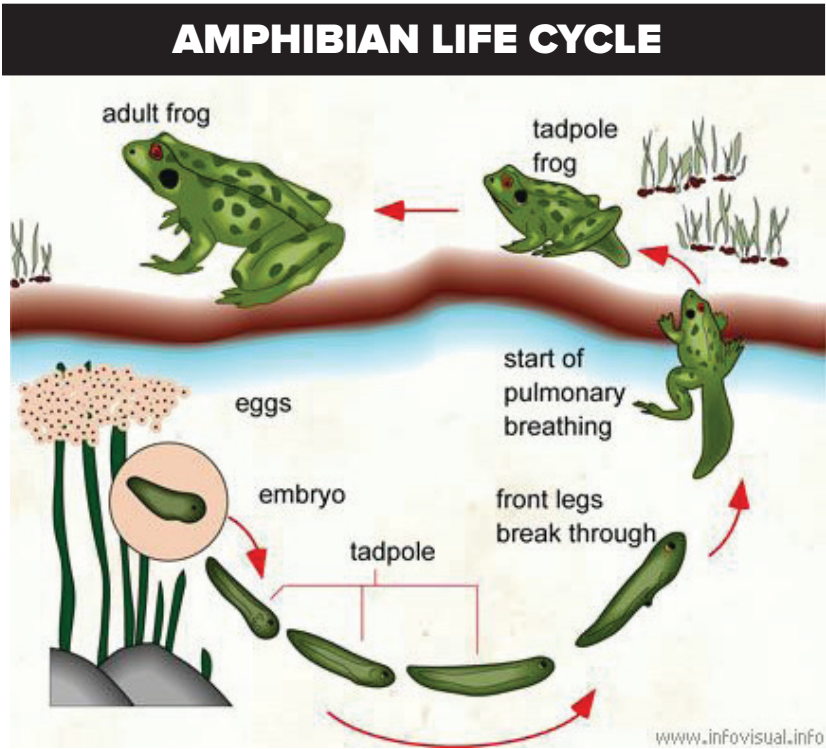
Optional: check out your local library or use these online resources to research a specific species.

- ▶ Ohio Department of Natural Resources - <https://ohiodnr.gov/discover-and-learn/animals/reptiles-amphibians>
- ▶ National Geographic Kids - <https://kids.nationalgeographic.com/>

Metamorphosis in Motion

Amphibians are cold-blooded vertebrates that don't have scales. They live part of their lives in water and part of their lives on land. Because they live in several different habitats, frogs and toads have a life cycle that is different from other vertebrates.

All frogs start life as **tadpoles** (or pollywogs), breathing underwater through gills and through their skin. Then, most species of frogs develop into land animals with lungs for breathing air.



Use the Amphibian Life Cycle diagram above to answer the following questions about amphibians.

- 1 Do frogs spend their lives in the water, on the land, or both in the water and on land? _____
- 2 Are frog eggs laid on land or in the water? _____
- 3 After a frog egg hatches, what is the animal called? _____
- 4 Does this newly-hatched animal have legs? _____
- 5 Does this newly-hatched animal breathe using lungs or gills? _____
- 6 As frogs mature, what do they grow? _____
- 7 What organ does an adult frog use to breathe – gills, skin, or lungs? _____

Habitat Connections

Choose a habitat. It can be one from “Let’s Explore Some Habitats” on page 4, or one you know a lot about. Then, choose an animal that lives in that habitat and draw them in their home. Be sure to add plants or other elements you would find there. Borrow elements from the samples below.



BONUS: Write a sentence about your chosen habitat or animal below!

All About Reptiles

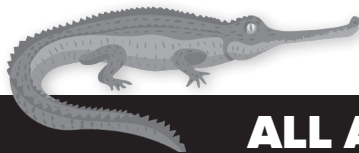


ALL ABOUT

Reptile: _____

Habitat: _____

Diet: _____



ALL ABOUT

Reptile: _____

Habitat: _____

Diet: _____



ALL ABOUT

Reptile: _____

Habitat: _____

Diet: _____

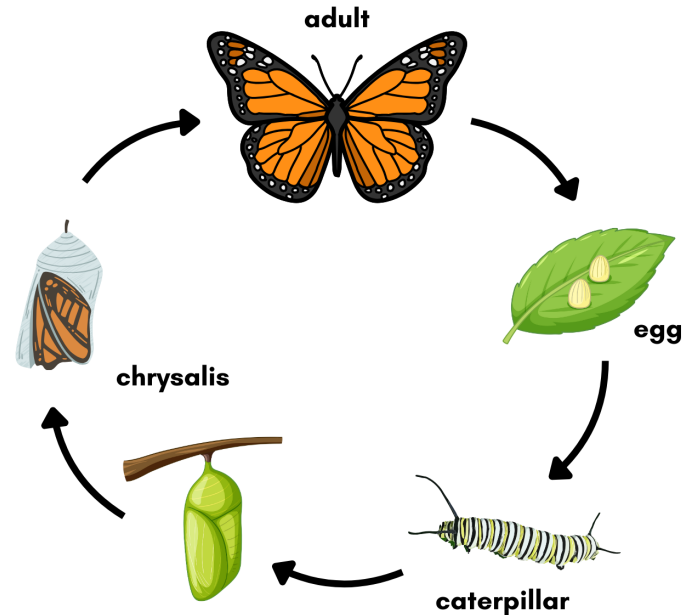
Marvelous Monarchs

Monarch butterflies are an invertebrate you see here in Dayton! They live in open habitats, like fields, meadows, marshes, and backyard gardens. Monarchs (*migrating monarchs*), are very important pollinators, and their massive yearly migration plays a huge role in many ecosystems.



Optional activity
– check out this video on the monarch life cycle from The Singing Zoologist!

MONARCH LIFE CYCLE



FUN FACTS

- ▶ These orange flying friends fly up to 3,000 miles across the United States and Mexico, spreading pollen and feeding on many wildflower nectars as they go.
- ▶ No single butterfly makes the entire migration. You might see up to 5 generations in one single migration, the life cycle continuing as they travel.
- ▶ Females lay 300-500 eggs under the leaves of the milkweed plant; the only plant that monarch caterpillars eat.
- ▶ Once the caterpillars hatch, they eat up to 200 milkweed leaves to fuel up for adulthood!
- ▶ After the butterfly hatches from its chrysalis, they only need a few weeks before they are ready to travel.

Pollinator Pathways

Want to learn more about how you can support monarchs and the incredible work they do? Check out these articles and activities you can do at home or at your school:

Ohio Department of Natural Resources | Gather and Plant Milkweed Seeds: Milkweed is the only host plant for monarch butterflies. By helping to gather these seeds and planting them, Ohioans can help support their life cycle and migration journey.

Troy Monarch Butterfly Habitat: Visit Troy, OH's beautiful habitat! It consists of a half-mile walking trail as well as kiosks along the way to share information on the garden and its inhabitants.

Monarch Wings Across Ohio: Monarch habitat guide and ideas.

More cool information to check out:

- ▶ **National Parks Service** - <https://www.nps.gov/articles/wintering-monarch-butterflies-at-the-presidio.htm>
- ▶ **U.S. Fish and Wildlife Service** - [https://www.fws.gov/search?\\$keywords=%22Monarch%20Butterfly%22](https://www.fws.gov/search?$keywords=%22Monarch%20Butterfly%22)

Acrostics in Flight

An **acrostic** is a type of poem that describes something by using each letter in the word or name as the beginning of a line. Here is a sample for the word **WORM**.

Wiggly movers beneath the ground
Opening tunnels where roots are found
Really important for soil to stay new,
Making the earth healthy for me and you.

Now it's your turn! Complete the acrostic below for “monarch” sharing what you know or like about monarch butterflies.

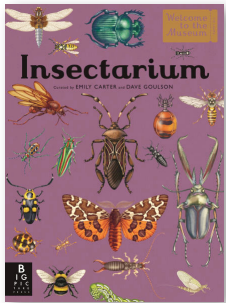
M _____
O _____
N _____
A _____
R _____
C _____
H _____



Resources for Students and Teachers

Books for Students

- **Young Zoologist Series** – This series has lots of animal picture books geared towards inspiring young aspiring biologists and zoologists.



- **Insectarium: Welcome to the Museum** – an illustrated junior entomology guide – curated by Dave Goulson and Emily Carter. Candlewick Press, 2025
There are a handful of other books as part of the **Welcome To The Museum series!**

- **National Geographic Kids Readers** – Nat Geo Kids has an entire series for insects and animals from A-Z!



Resources for Students

- **Wild Kratts on PBS** – The **Wild Kratts** have been around for a while, and their adventures haven't stopped yet! Explore their homepage and check out games, full episodes, and educational videos - <https://pbskids.org/wildkratts/>



- **PBS LearningMedia** – Explore everything from ELA to technology on this student site filtered by grade level - <https://thinktv.pbslearningmedia.org/student/>

Resources for Educators & Students

- **PBS Learning Media (For Teachers)** – There is something for ages 1-92! Follow this link to learn more about Ohio Learns360 Camps-In-A-Box – <https://thinktv.pbslearningmedia.org/collection/ohio-learns-360/>
- **American Museum of Natural History** – Explore everything Zoology, or check out other “Ologies” on their site – <https://www.amnh.org/>
- **National Geographic Kids** – Check out photos, videos, and articles about animals from around the world – <https://kids.nationalgeographic.com/>

Local Resources

- **Five Rivers Metroparks**
Conservation Areas:
– **Woodman Fen** and **Spring Run** – alkaline wetland
– **Medlar** – wetland, prairie, thicket
– **Dull Woods** – wetland and forest



- **Boonshoft Museum of Discovery – Discovery Zoo:**
In addition to the museum, check out the **Discovery Zoo!** They have a daily Keeper Talk program, and lots of cool animals to see.

- **Troy Monarch Butterfly Habitat** – Visit Troy, OH's beautiful habitat! It consists of a half-mile walking trail as well as kiosks along the way to share information on the garden and its inhabitants.

Brought To You By

DAYTON LIVE

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DAYTON LIVE DISCOVERY

The Education and Engagement programs of Dayton Live are made possible through the support and commitment of the following sponsors and donors whose generosity have opened the door of live theatre to the students of the Miami Valley:

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DAYTON LIVE CREATIVE ACADEMY

Interested in learning more about theatre?!

The Dayton Live Creative Academy offers a variety of professionally curated performing arts experiences for all ages. From classes for beginners, and summer camps for the adventurous, to Broadway after-school intensives for the curious, there are year-round activities for everyone in the family. Join us for fun, for adventure, and to develop your own creativity. This is performing arts education for **EVERYONE!**

EDUCATION AND BROADWAY PROGRAMS

Broadway Camps and Intensives

Broadway Master Classes

Background on Broadway

Bagels & Broadway

<https://www.daytonlive.org/education>

Dayton Live is an ACE Qualified Education Service Provider! Find out more about ACE funds: <https://education.ohio.gov/ohioace>

DAYTON LIVE



Rave Reviews for The Singing Zoologist

"Kids adore his live-wire energy and adults love the wealth of science he weaves into each song and story."

C Squared Entertainment



"As Lucas Miller's publicity materials will tell you, a zoologist is someone who studies animals, and you already know what singing is; so that makes a singing zoologist someone who sings songs about animals—and that's what Lucas Miller did to entertain and inform kindergarten through third grade students in all local school districts last week. And I can tell you that the youngsters were entertained, their teachers were impressed, and Lucas thoroughly appreciated the good times he had in Darke County."

Daily Advocate



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