

CURRICULUM CONNECTIONS

The Singing Zoologist

the Singing
Zoologist!



Major support for the Student Enrichment Through the Arts program has been provided by



Frederick A. DeLuca
FOUNDATION

What's included in Curriculum Connections:

Letter to Teachers...page 2

Theater Etiquette...page 3

Student Theater Review...page 4

Synopsis...page 5

Pre and Post Show Worksheets/Links and Activities...pages 6-13

Post Show Cooperative Learning Opportunities

(Group Work Ideas for Teachers)...page 14

Student to Family Cooperative Activity Ideas...page 15

Standards Alignment...page 16

Know Before you Go:

- Arrive at the theater 15 to 20 minutes before show time. Allow extra time for Broward County traffic. We are unable to start a show late.
- Please stay on the bus until greeted by a SEAS usher. At that time, please give the usher your BUS document and the usher will escort you to the theater.
- Remember to watch our Know Before You Go Video:

<https://tinyurl.com/ElementarySeasWelcome>



Dear **TEACHER**,



We are excited to present this Curriculum Connection (Study Guide) as a valuable resource to support your teaching journey. This guide has been carefully designed to offer engaging and meaningful activities for use in your classroom before and after seeing a S.E.A.S. performance at The Broward Center's Amaturo Theater, The Parker, or Miniaci at NSU. Each section is structured to make it easier for you to integrate cross-curricular connections, providing a seamless experience for students to deepen their understanding while exploring the creative process.

The activities and lessons in this guide have been intentionally crafted to complement Florida's B.E.S.T. standards. By utilizing these resources, you will be able to foster a dynamic and creative learning environment while ensuring students meet key academic goals. We encourage you to adapt the materials to best fit your classroom's needs and objectives, empowering students to think critically and creatively across all disciplines.

We want to take a moment to express our sincere appreciation for the passion and dedication you bring to your classrooms every day. Your commitment to infusing art-full moments into education not only enriches your students' learning experiences but also ignites their curiosity and creativity. Thank you for inspiring the next generation of thinkers, creators, and innovators. We are truly grateful for the impact you have on your students' lives. Consider joining the Teacher's Lounge (QR code below) to be notified of special events and discounts just for Teachers.



Don't forget to distribute your S.E.A.S. stickers when you return to school (after the trip) and share the magic that is Student Enrichment Through the Arts!



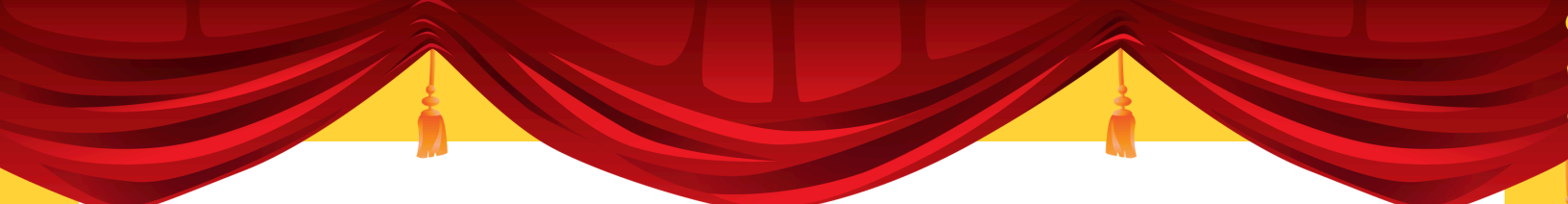


Theater Etiquette

There is so much that goes into creating a show for the stage. Behind the scenes, there are people who control the lights and the sound, the sets and the props. There are directors, writers, producers, musicians, and choreographers. So many people work together to create the performance you and everyone in the audience watches.

It is helpful to remind students of appropriate audience etiquette by explaining and discussing WHY these rules of behavior are important:

- Restroom visits are best made prior to the performance.
- Listen carefully to the ushers and your teachers. This gets everyone to your seats quickly and ensures a pleasant experience.
- Turn watches and cell phones to silent.
- Walk single file, hold hand rails as you use the steps for your safety.
- Listen carefully to each performer. They are working hard to entertain and inform with lots of clues about the story.
- Refrain from TALKING. This allows everyone to enjoy the show without distraction. Sometimes we think that if we whisper it is okay. But, if everyone in the audience whispers, it becomes disruptive.
- Laugh if something is funny, but not too loudly, you don't want to miss any dialogue.
- Photography and recording are not permitted.
- Pay attention to the lighting, scenery, costumes and music. All of these elements help provide more details to tell the story in an interesting way.
- Applaud (clap) and laugh at the right moments. This shows the performers that you respect and appreciate their work.



My Theater Review

I saw: _____

Reviewed by: _____

This play/musical was about...

Here's a drawing of
my favorite character:

It made me feel:

I learned:

I gave this play/musical stars.



**We'd love to hear from you! If you'd like to submit this review,
please send to jenriquez@browardcenter.org**

BiteSize Science

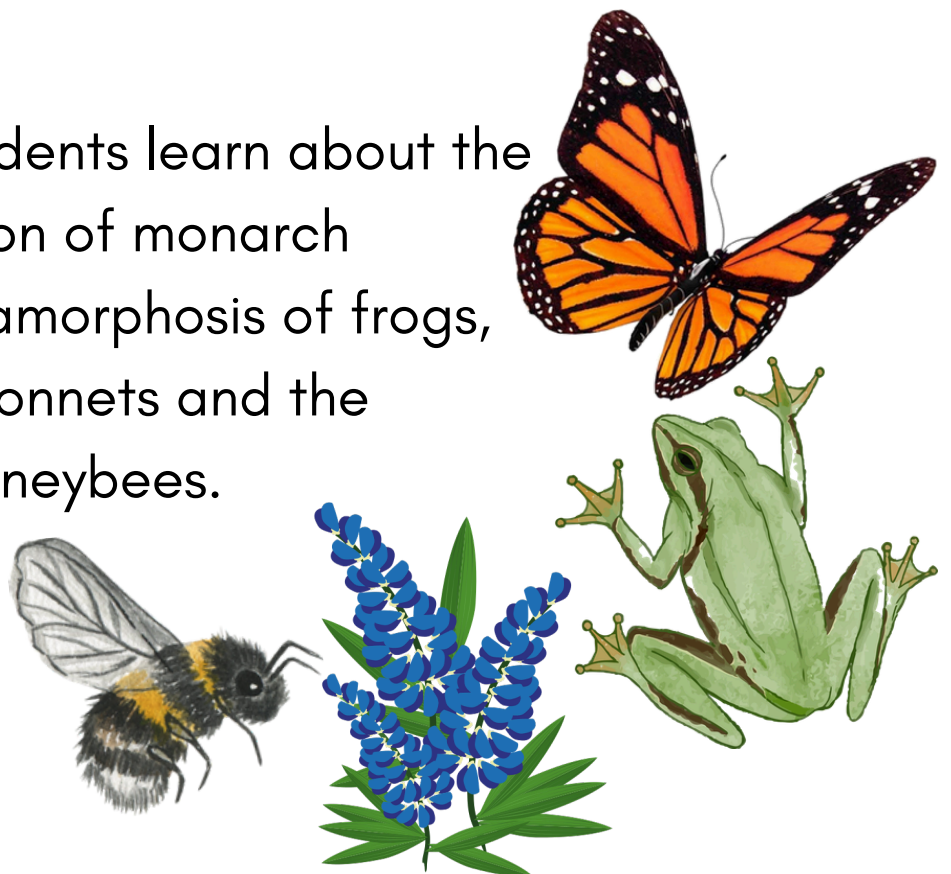
TheSinging Zoologist

Life Cycles: Synopsis

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.

Lucas has reached millions through his legendary school programs and many more through his YouTube channel, “Science Up with the Singing Zoologist.” His recordings have won awards galore and he was named an “American Masterpiece” artist by the National Endowment for the Arts, but it’s really the notes from generations of fans that are his highest honor.

In LIFE CYCLES, students learn about the growth and migration of monarch butterflies, the metamorphosis of frogs, pollination of bluebonnets and the amazing work of honeybees.



What on earth is a “singing zoologist?”

A zoologist is someone who studies animals and you already know what singing is, right? That makes a “singing zoologist” someone who sings songs about animals, and that’s what Lucas Miller does.

Lucas fell in love with animals as a preschooler; frogs and turtles were his favorites. He also adored listening to his dad picking folk songs on his banjo and guitar.

As he got older, he became a musician himself, starting saxophone in 6th grade and then guitar in high school. He dreamed of being a rock star!

He loved science too, though, so he studied zoology at Miami University by day, and rocked out with his noisy band by night.

After graduation, Lucas planned to be a sea turtle scientist, but his first job was as an educator and “ship’s musician” on a sailboat called *The SoundWaters*, that took schoolkids out on eco-field trips. He loved it. It gave him a way to combine his loves of wildlife and music. *The Singing Zoologist* was born!

Now living in Austin, Texas, Lucas travels the nation, literally “singing the praises” of wildlife at schools, concert halls, festivals and more. He’s inspired two generations of kids and he’s not done yet.

What’s it all about?

Animals are cool, yes, but they’re also important, and that’s what Lucas Miller aims to show you with his songs, stories, videos and multimedia programs.

Lucas’ corny jokes, crazy hats, and bad dancing will get you giggling, moving and making some pretty weird noises while you’re learning solid life science concepts. You’ll also discover ways you can help wild things thrive, because you know what? Wild things help you thrive!



Lucas’ first turtle discovery

Get ready for *The Singing Zoologist!*

This guide features multi-disciplinary activities, projects, videos, and more to help you prepare for the big day, get more from the show itself, and get involved in science and conservation projects afterward.

You can find an electronic version of this guide and much more in the “fun stuff” section at www.singingzoologist.com, an ever-growing collection of pages and resources for deepening the learning with your students or family. You should definitely check it out..

Get in touch!

Lucas loves hearing from fans, so send your comments, videos, pictures, requests, and questions to him via social media:

Facebook public page: Lucas Miller, the “singing zoologist”

Twitter: jlucasmiller

Instagram: singingzoologist

Pinterest: singingzooloist

email: jlucasmiller@gmail.com



Look him up on YouTube!

If you do nothing else before the show, play a couple of Lucas’ videos from his YouTube channel, “Science Up with the Singing Zoologist.” Your kids will arrive excited to have fun and sing along.

These playlists will get you right to the best stuff:

Recommended videos for grades K-2:

<https://goo.gl/JievbT>

Recommended for grades 3-5:

<https://goo.gl/FChQ7M>

Take the monarch quiz!

You can read these questions from this guide or download a Jeopardy-style PowerPoint at <https://singingzoologist.com/monarchs/>. It features some helpful animations and images, too, so, yeah, you should do that..

1) Monarchs are found throughout the US and southern Canada in the summer, but in the winter, they are found in:

- a) Michoacán, Mexico
- b) The coast of California
- c) Florida
- d) All of the above

It's actually d), all of the above. Monarchs east of the Rocky Mountains mostly go to south central Mexico. Monarchs west of the Rockies, go to various places along the California coast.

There are also some monarchs in Florida in the winter, but it's not certain whether they migrate to Florida for the winter or if they are just there all year long and don't need to migrate.

While you're discussing this, get a globe or map to show the kids the Rockies, California, Florida, and Michoacán, Mexico, and have them trace the monarchs' routes with their fingers.

2) Milkweed plants are the only plants where monarch butterflies will:

- a) make a milkshake
- b) sleep
- c) lay eggs
- d) collect nectar

Monarch butterflies will slurp nectar from many kinds of flowers, but they will only lay their eggs on milkweed plants.

This is because monarch caterpillars will only eat milkweeds. If you want to have monarchs, you must have milkweeds!



A monarch egg on a milkweed leaf

This is called being a “host plant,” and many kinds of butterflies and moths depend on a certain kind of plant like this.

3) Milkweeds are called milkweeds because:

- a) They tend to grow near milkcows
- b) They taste like milk
- c) They have a sap that looks like milk
- d) They taste good on cereal.

It's c), their milky sap. If you tear off a stem and squeeze it, you can see white "sap" oozing out. Don't eat it, though, it's mildly poisonous and tastes disgusting!



4) Monarchs can store milkweeds' poison in their own bodies to protect themselves from some predators. If most birds eat a monarch, they will:

- a) Vaporize
- b) Get sick
- c) Lose all their feathers
- d) Turn into a toad

Monarchs aren't deadly, but they will make many predators sick if they eat one. After that, many predators will recognize a monarchs' bold markings and avoid them in the future. It's not perfect, however, as some orioles, mice, wasps and other creatures can eat monarchs without being harmed.

5) Which body parts have been shown to help monarchs navigate to Mexico?

- a) Antennae
- b) Legs
- c) Proboscis
- d) abdomen

Monarchs' antennae seem to have "built-in GPS!" Considering their brains are about the size of a kiwi seed, it's truly amazing they can find their ways 2000 miles to Mexico!

Monarch Butterflies

Videos:

“Going Down to Mexico,” Lucas’ beloved song about a monarch butterfly’s migration to Mexico, is sung by school children across the continent. There are several versions on YouTube so pick one (or more) and play it for your kids:

- [High-gloss music video](#): no expense was spared on this, Lucas’ first ever music video, featuring the CD version of the song
- [“Unplugged” version](#), a “live” performance video featuring illustrations from Lucas’ book, *Going Down to Mexico/Rumbo a México*
- [Spanish version](#) sung by fellow kids’ artist Sue Young
- Lucas’ explanation of [metamorphosis](#) might be a good one, too...
- And here’s Lucas explaining [incomplete vs. complete metamorphosis](#)
- And you have to [behold the masses of monarchs in Mexico!](#)

If you’re looking at a paper version of this guide, there are links to each video at singingzoologist.com/monarchs.



Science activities: How to host a visiting monarch

The number of monarchs making it to Mexico has dropped precipitously over the last decade and biologists are asking the public for help with conservation efforts. Here are some great ways to “support your monarch.”

Grow milkweed plants!

Put out a milkweed, and you give female monarchs a place to lay her eggs. You can either grow milkweeds from seeds or get mature milkweeds at your local nursery, but avoid the “big box” home stores, as there have been some accounts of their milkweeds harming monarchs (it’s probably the pesticides they use).

Your local nursery should be able to suggest good, native species or you can go to <https://monarchbutterflygarden.net/milkweed-plant-seed-resources/>

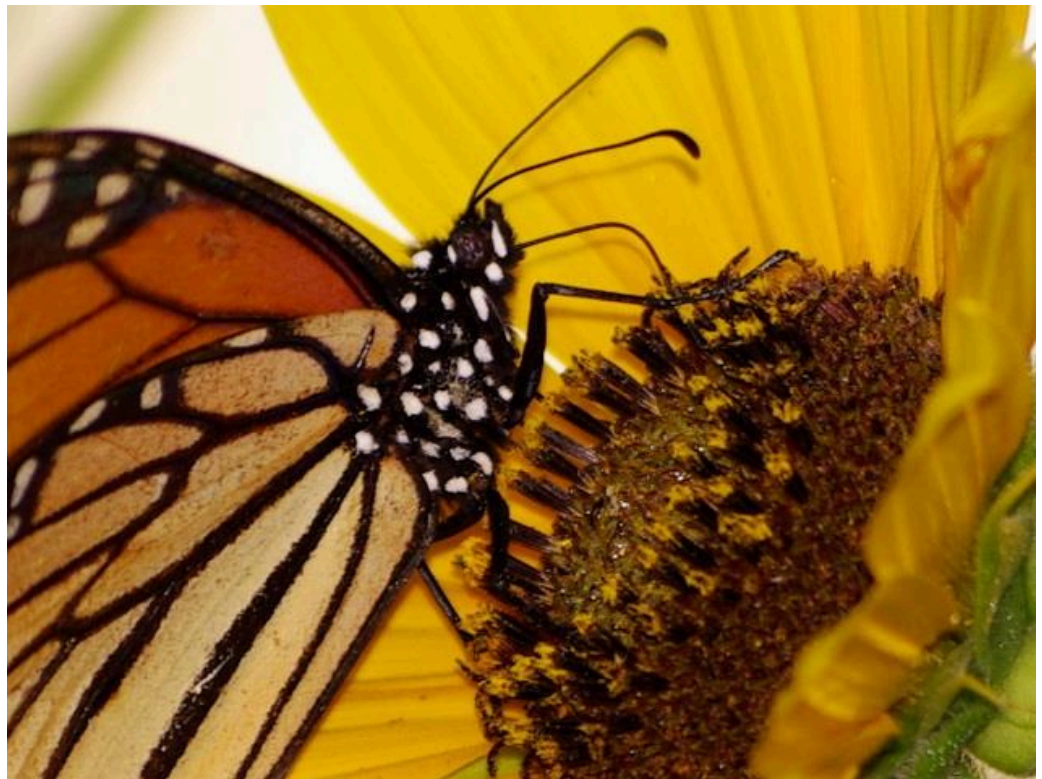
Monarchs adore tropical milkweeds, but this species is non-native to the US and may be doing some harm to monarchs, so its’ best to go with a mix of three or four native species. If all you can find are tropical milkweeds, use them but don’t let the plant survive through the winter.

Create a monarch way station!

Monarch caterpillars need milkweeds to munch but butterflies are fueled by flower nectar.

You can make a monarch “way station,” a little garden of nectar-rich flowers, that work like a highway convenience mart for migrating monarchs!

Learn more about this fun, simple project at <https://www.monarchwatch.org/waystations/>



THE SINGING ZOOLOGIST WRITE ABOUT IT

Imagine you are a monarch butterfly flying south for the winter.
Use descriptive words to write about your journey. Consider sharing your experiences with migration,
as a caterpillar and chrysalis.



Include:
What you see
How you feel
Where you are going

THE SINGING ZOOLOGIST

AFFIRMATIONS

Brainstorm words to positively describe yourself,
and place them in the butterfly jar:



Post Show Cooperative Learning Opportunities

(Group Work Ideas for Teachers)



1. Group Reflection Circle

Sit together and share your favorite moments, characters, or songs from the performance. Encourage everyone to explain why they liked those parts.

This builds listening skills and helps everyone appreciate different perspectives.

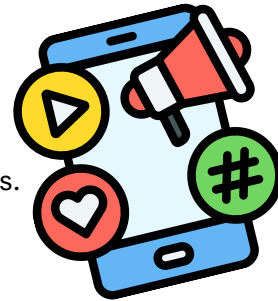


2. Create a Mini Review Together

Work as a team to write a short review of the show.

Assign roles: one person writes, another edits, others brainstorm key points.

You can post it on social media or keep it in a class journal.



3. Reenact a Scene

Pick a favorite scene and act it out as a group.

Add your own twist—maybe change the setting or improvise new dialogue.

This sparks creativity and teamwork.



4. Design a Poster or Program

Collaborate to create a poster or program for the performance you saw.

Include drawings, quotes, and fun facts.

This is great for artistic expression and memory keeping.



5. Plan a "Behind the Scenes" Discussion

Research how the performance was made (costumes, music, choreography).

Assign each group member a topic to present.

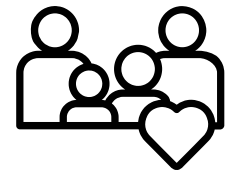
This turns curiosity into a cooperative learning activity.



K-5 Student to Family Cooperative Activity Ideas:

- Create a home theater space: Dedicate a specific area in your home as a temporary theater space. It can be anywhere with a little bit of space to "put on a show". Create a cozy ambiance with lighting and comfortable seating.
- Create tickets and programs: Design and print them at home or even hand made. Deliver the tickets to family members, and the programs can include information about the performance, cast, and crew. This adds a touch of authenticity and excitement.
- Snack bar and concessions: Set up a snack bar or concessions stand with a variety of treats and refreshments. You can even create special themed snacks related to the performance you are watching.
- Interactive viewing experience: Encourage audience participation during the performance. For example, during a musical, you can sing along to the songs and clap during applause-worthy moments!
- Post-show discussions: After the performance, have a family discussion about the show. Share your thoughts, favorite moments, and discuss the themes or lessons portrayed. This can foster critical thinking and encourage creativity in your kids.
- **Remember, the goal is to create a memorable and immersive experience. Adapt these ideas based on your family's preferences and the resources available to you. The key is to have fun and enjoy the theater experience in your digs!**

Additional Activity Ideas:



- Memory jars: Create a memory jar with your children. Write down favorite childhood memories on small pieces of paper and put them in a jar. Each week or month, take turns pulling out a memory and sharing it. This can spark conversations and lead to further discussions about your childhood experiences, and theirs too!
- Bedtime stories: Instead of reading traditional bedtime stories, take turns sharing personal stories from your childhood. These could be tales of adventure, funny incidents, or heartwarming experiences. This can create a strong bond between you and your children as you share personal narratives.
- Encourage your kids to create their own journals or scrapbooks to document their childhood memories. Take the opportunity to share your childhood stories as you help them with their own projects. You can even contribute by adding some of your own stories or mementos to their journals.
- What was your favorite song, band or genre growing up? Play a few songs for your child/children and let them play a few of their favorites for you!
- Create traditions with your child/children!: Establish special rituals or traditions that you can share. It could be a weekly movie night, cooking together on weekends, going for a walk after dinner, or singing at the top of your lungs before bedtime.

Standards Alignment: The Singing Zoologist

Standards Alignment: The activities in this guide are aligned with the standards listed below. When teachers incorporate the arts, they increase student engagement, offer multiple points for students to access the curriculum, and provide alternate means for students to demonstrate what they know.

Florida's Benchmarks for Excellent Student Thinking (B.E.S.T.)	
Kindergarten through Grade 12/ English Language Arts	
ELA.K12.EE.1.1	Cite evidence to explain and justify reasoning.
ELA.K12.EE.2.1	Read and comprehend grade-level complex texts proficiently.
ELA.K12.EE.3.1	Make inferences to support comprehension.
ELA.K12.EE.4.1	Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.
ELA.K12.EE.5.1	Use the accepted rules governing a specific format to create quality work.
ELA.K12.EE.6.1	Use appropriate voice and tone when speaking or writing.
Science	
SC.2.L.16.1	Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies.
SC.4.L.16.4	Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants.

CURRICULUM CONNECTIONS

DONORS

We thank the Broward Performing Arts Foundation and the following funding partners for their support of educational programming at the Broward Center this season.

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