

CURRICULUM CONNECTIONS

Bite Size Science The Singing Zoologist Life Cycles



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What's included in Curriculum Connections:

Letter to Teachers

Theater Etiquette

Synopsis

Pre/Post Show Worksheets/Links/Activities

Student to Family Cooperative Activity Ideas

Florida Standards Alignments

Student Theater Review

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 Educators,

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 Amaturro 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!



Teacher's Lounge



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.

Theater Vocabulary: From Script to Spotlight

Play: A story told live on stage by actors in front of a live audience.

Musical: A story told live on stage by actors in front of a live audience that also involves singing and dancing.

Genre: The style of a play.

Plot: The timeline of actions in the story from beginning to end.

Setting: Where a story takes place.

Characters: Who the story is about.

Conflict: A problem that the characters in the story have to face and overcome. A conflict arises when a character wants something but something else gets in their way.

Objective: What a character wants to achieve or solve in the story. In other words, a character's goal.

Protagonist: The story's **hero**. This is the character who is out to accomplish a goal or find purpose.

Antagonist: The story's **villain**. This character is usually against what the protagonist(s) needs to accomplish their objective or goal.

Dialogue: a conversation between two or more people in a play or musical.

Moment Before: an acting term that encourages actors to consider what is going on in their character's life just before the present moment.

Blocking: Movement the director give to the actors to show them where to go on the stage

Choreography: A sequence of dance moves assigned to a dancer in a musical number (song) that are used to help tell the story.

Cue: In theater, a cue signals when another action should begin. Ex: The actor's cue to enter the stage might be after they hear the thunder sound effect.

Make-Up: Artistically designed cosmetics to enhance an actor's portrayal of a character.

Playwright: The writer or writers of the play. Playwrights write the dialogue between characters in a play.

Composer: The artist who writes music for a musical.

Lyricist: the artist who writes words to the music in a musical.

Actor: the artist who embodies or puts themselves "in the shoes of" a character or characters in a play or musical to tell that character's story to the audience.

Audience: a group of people who attend a live event like a theatre performances to watch, listen, and respond to the event on stage.

Director: the artist who works with the writers, actors, and designers to tell a clear story on stage for the audience.

Stage Manager: The artist who manages the onstage and backstage areas before, during, and after a performance.

Costume Design: A costumer designer chooses and creates the articles of clothing that characters wear on stage to help tell the audience who the characters.

Sound Designer: an artist that creates the mood or atmosphere of the play through the use of sound, sound effects, and music in a play or musical.

Props: Objects used by a character on stage to help tell the story. Ex: A character may use a prop like an umbrella on stage if it is raining in that scene of the play.

Bite Size Science

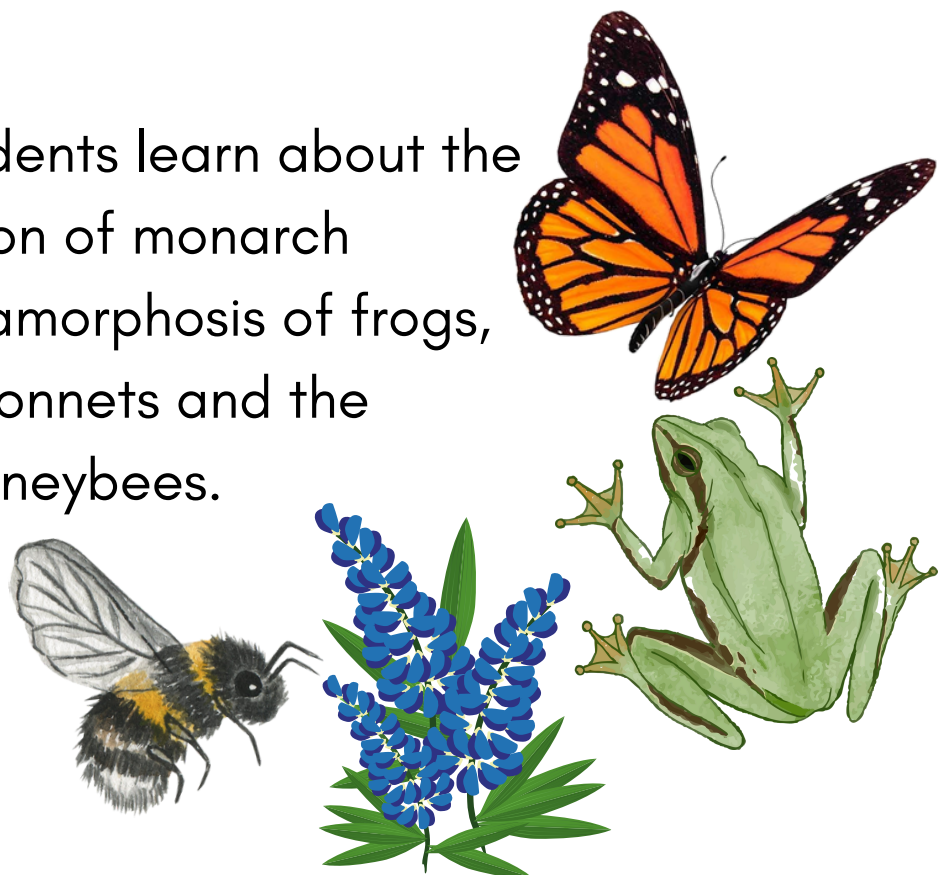
The Singing Zoologist

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.

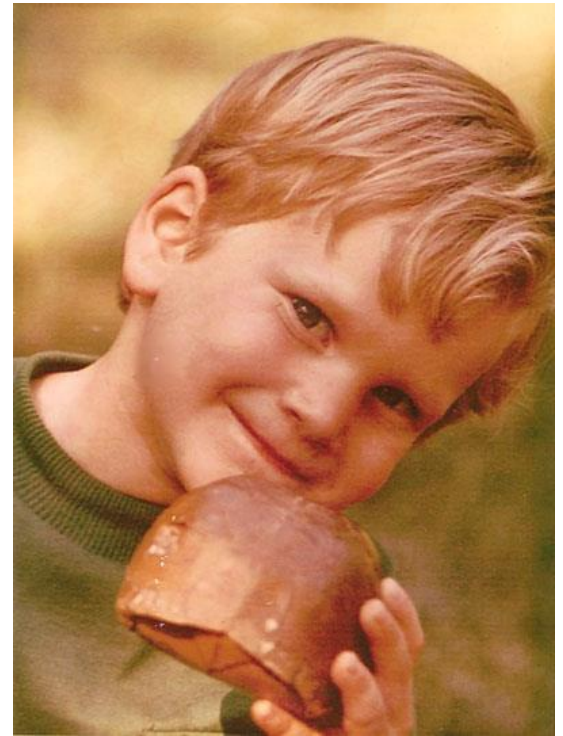
After graduation, Lucas planned to be a sea turtle scientist, but his first job was as an educator and “ship’s musician” on a sailboat called *The SoundWaters*, that took schoolkids out on eco-field trips. He loved it. It gave him a way to combine his loves of wildlife and music. *The Singing Zoologist*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

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.



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!

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



A monarch egg on a milkweed leaf

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!

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/>





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**