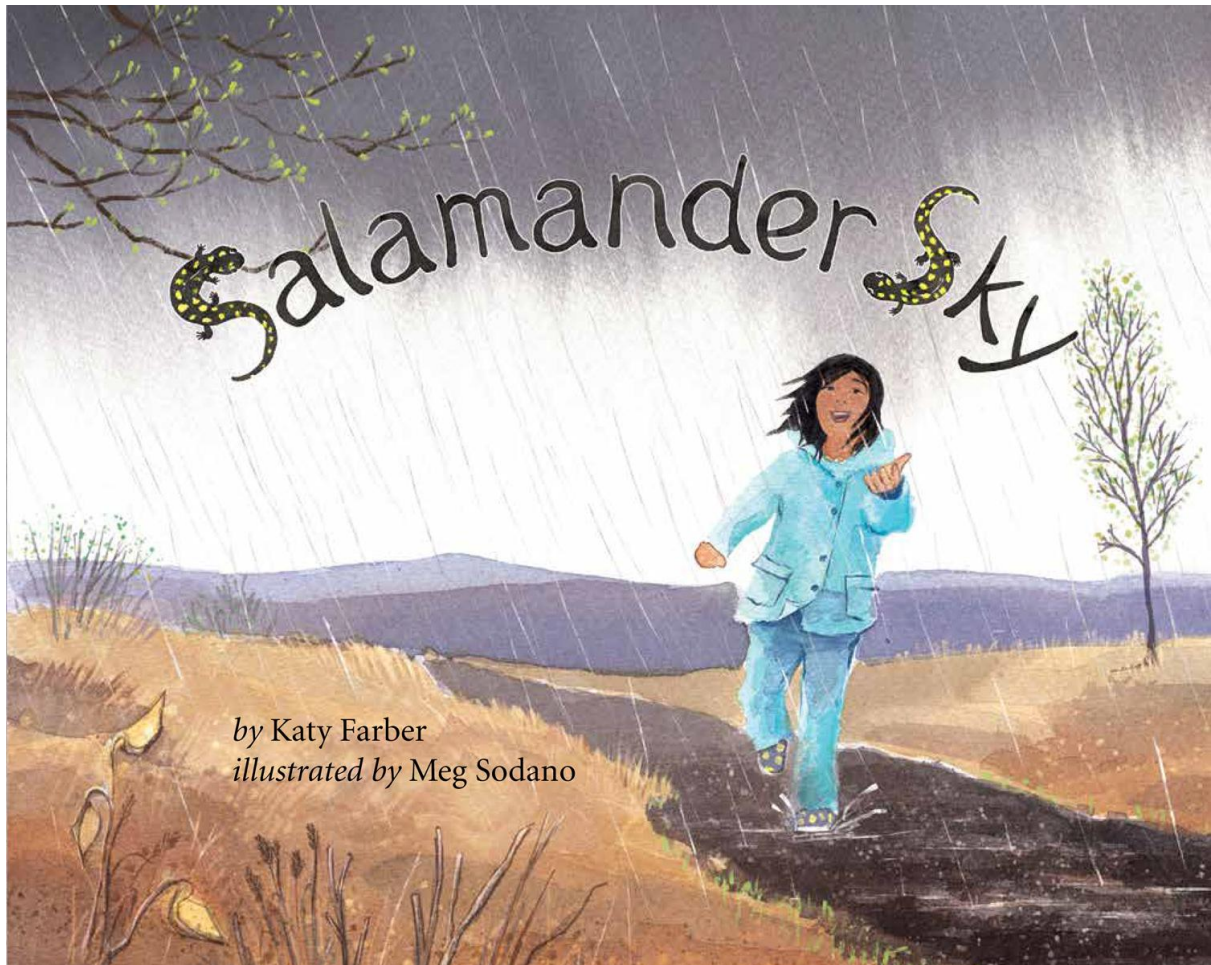


Educator's Guide to Salamander Sky



Salamander Sky, a picture book by Katy Farber
(Green Writers Press) #SalamanderSky

Salamander Sky: An Educator's Guide

About the Book

Salamander Sky is a picture book about the great salamander migration that happens every spring in the Northeastern United States. Warmer nights with steady rain bring the migration of thousands of spotted salamanders to ponds and pools, often across busy roads. These crossings are magical, and secretive--most people don't even know they happen.

Salamander Sky features a mother and daughter who go out on a rainy night to help the salamanders cross the road safely. This dramatic, full-color, picture book introduces readers to the elusive spotted salamanders and the perilous night time journey they take each spring. Amphibians worldwide desperately need protection. This book is a valuable tool for getting children engaged in conservation.

A Letter to Readers

Dear Readers,

My 10 year old hands went numb as I reached in the water and picked up a green-grey salamander (an eastern newt). I was standing in a cool brook, on shelf grey rocks that made a small waterfall in Central Pennsylvania. It's body— tiny, delicate toes, long tapered tail, and moving head delighted me. It was not gross, slimy or disgusting, as others might have said, or implied, that girls would not like them.

Fast forward to being a camp counselor in Western New York. I led herpetology workshops with teenagers, hiking up another stream in search of pale pink salamanders to identify, record details about, and send our data to the state of New York's state Herpetology project. The teenagers' eyes widened as they lifted heavy rocks and found the yellow eyes and long pink bodies underneath.

Then, we moved to Vermont, and luckily, we had a small pond on our property that was full of spring peepers, wood frogs, and eastern newts. We also discovered that one on night, the rarely seen spotted salamanders would cross our dirt road to get to our pond to mate. If this crossing happened when the road was busy, dozens were killed. I was disheartened, but then I saw them. The people who came out at night, in their raincoats and safety vests, helping the salamanders cross the road safely, putting up signs, and alerting their neighbors to slow down. I joined them, and have been helping salamanders (and frogs and toads!) cross Vermont roads for at least a decade.

In *Salamander Sky*, I wanted to show two female characters being thrilled and excited about the warm rain, the nighttime crossing, and the elegant bodies and coloring of the spotted salamanders. I wanted to illustrate that together they can do something important to help these fragile and beautiful creatures, and that we all have a part to play in taking care of the earth and all of its diverse inhabitants.

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Now, I take my two daughters with me on the night of the *Salamander Sky*. We wait for it with great excitement, and when it's time, we jump up and pull on our raincoats and mud boots. It connects us to each other and to the beauty of the natural world. We hope you will join us and see the magic of the *Salamander Sky* and these incredible creatures.

--Katy Farber

When creating the pictures for *Salamander Sky*, I envisioned the story being read not only at homes, schools, and libraries, but also at nature centers and in environmental education programs everywhere. It is an important learning tool for introducing children and families to the spotted salamanders, their habitat, their role as a vulnerable indicator species, and their conservation needs. I hope that my illustrations and Katy's enchanting words will inspire curious minds and ignite a desire to actively participate in conservation –not only for spotted salamanders and other amphibians, but for all wildlife and the environments (both wild and urban) that we share.

Meg Sodano

Using Salamander Sky as a Springboard for Citizen Science and Project Based Learning

Picture books can be a springboard for students into inquiry and project based learning. One way to do this is to read aloud the book, stopping to share your questions, thoughts and ideas, and asking the class to join you in this. Add sticky notes at curious spots in the book, or make a chart as you read. Students can then circle back to questions, concepts, and topics they want to explore further through research and project creation.

I created a website with ideas for how to use *Salamander Sky* to inspire engaging, meaningful projects with students. Please take a look for more ideas about how to use Salamander Sky in project based learning with your students!

Science Themes and Topics

There are many science concepts presented in both the text and the illustrations in Salamander Sky:

- migration
- range
- metamorphosis
- life cycles
- forest ecology
- habitat

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- human caused threats to salamanders
- citizen science
- women in science

NGSS Standards

Many states use the Next Generation Science Standards to guide science curriculum in their schools. Below is a list of core science concepts that are reflected in *Salamander Sky*, and can be the basis for science lessons, projects, activities and discussions.

Disciplinary Core Ideas:

LS2.C: Ecosystem Dynamics, Functioning, and Resilience

- When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (*secondary to 3-LS4-4*)

LS2.D: Social Interactions and Group Behavior

- Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size (*Note: Moved from K–2*). (3-LS2-1)

LS4.C: Adaptation

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (3-LS4-3)

LS4.D: Biodiversity and Humans

- Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (3-LS4-4)

LS1.B: Growth and Development of Organisms

- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)

LS3.A: Inheritance of Traits

- Many characteristics of organisms are inherited from their parents. (3-LS3-1)
- Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (3-LS3-2)

LS3.B: Variation of Traits

- Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)
- The environment also affects the traits that an organism develops. (3-LS3-2)

LS4.B: Natural Selection

- Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (3-LS4-2)

Students can also meet NGSS standards for STEAM practices by gathering data about salamanders during their migration and using this to analyze and interpret data, as well as engaging in an argument with evidence.

Discussion Questions and Activities

Pre-Reading:

- Why do you think this book is called *Salamander Sky*?
- What do you notice about the main character's face? Why is she happy?
- What do you notice about the title as the illustrator created it?

During Reading:

- What is happening outside? What are the clues from nature? (page 1-2)

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- what is the main character's name, and what month is it? Why do you think the author made this choice? (page 3-4)
- What is different about this page? Why do you think the illustrator designed these pages in this way? (page 4-5)
- Where do the spotted salamanders live all year? (page 4-5)
 - **Extension activity:** Ask students to illustrate the tree root homes of the spotted salamanders based on research.
- Why do they come out in the spring? (page 4-5)
- Why do spotted salamanders matter? (page 6-7)
- Where do they live? (page 6-7)
 - **Extension activity:** Have students pick a salamander species and draw a range map of the United States where it lives.
- What is their life cycle? (page 6-7).
- What can harm salamanders? (page 8-9)?
- Why do you think the illustrator chose to make the salamanders white silhouettes (empty spaces) in this illustration? (page 8-9)
 - **Extension activity:** Have students design an illustration of human threats to another local species, and use empty space silhouettes in their designs.
- What do you notice about the classroom and April's bedroom that connects to the story? (page 8-9)
 - **Extension activity:** Have students illustrate their classrooms and/or bedrooms, and use a key feature from a local animal in the design.
 - **Extension activity:** Ask students to research why the spotted salamander has bright yellow spots, and why animals in nature sometimes have bright colors. What is the biological purpose?
 - **Extension activity:** Students can create a folktale about how the spotted salamanders got their spots based on readings of Native Animals folktales.
- How do April and her mom get ready to head out into the rainy night? (page 10-11)
 - What do you think they are missing? Why might that be important?
- What do you think it sounds like and feels like to be April in this scene? (page 12-13)
 - **Extension activity:** Have students journal about a time they have done something good to help another creature and how it made them feel.
- What is one big threat to salamanders that April is hoping to help with? (page 12-13)
- What do you think April is feeling when she finds her first spotted salamander? (page 13-14)

Post Reading:

- Why do you think April feels good after helping the salamanders?
- What are your questions about the story (write these down for later project ideas)?

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- What do you want to do to help the salamanders?
- what do you want to learn more about?

More Activities (geared to PreK-3)

- [Vernal pool coloring page](#) created by Meg Sodano
- [Amphibian awareness lesson plan](#)
- [Illustrate a salamander life cycle book and life cycle coloring pages](#)

Media

- [Help us find salamander crossing sites](#) (video of spotted salamanders crossing, kids helping)
- [Salamanders crossing through a wildlife tunnel created in Monkton, Vermont.](#)

★Thank you for reading! Please Send me your thoughts, ideas, and resources for how you use Salamander Sky in your classroom and I will update this guide.★