



by Claire Miller

The frog population in Costa Rica is declining. Scientists search for answers.

The cloud-covered mountains of Costa Rica are home to a variety of frogs. Many live in the Monteverde Cloud Forest Reserve. Over the years, cloud coverage has changed in the region. Now, some of the forest's frogs have disappeared, and the changing clouds may be part of their problem. **I**

Super Soakers Unlike humans, frogs don't drink water. Instead, they absorb it through their skin. Most of it soaks through a "seat patch" on their bottoms when they sit on moist ground.

In the Monteverde Cloud Forest Reserve, the frogs have depended on the clouds that hang around the mountains to keep the forest floor wet and the mountain streams flowing. Where do the clouds come from?

When Earth's water evaporates from oceans, lakes, or puddles, it changes from liquid to water vapor. This water vapor rises when heated by the sun. Strong winds can also



A golden-eyed treefrog in Monteverde.



Golden toads depositing their eggs in a pool.

In Monteverde, the water vapor would often rise until it ran into cold air around the mountaintops. This cold air **condensed** the vapor into liquid water droplets. The droplets then clumped together to make up a cloud. ☐

Clouds are the form that water takes right before it returns to Earth as rain, snow, sleet, or hail. In Monteverde, when clouds blanketed the mountain, the droplets gathered to make the little pools of water that the frogs need.

These days, the clouds often form high in the sky instead of down on the mountains of Monteverde. As a result, the forest floor is drier than it once was. So what's causing this high cloud formation?

In recent years, the air temperature in Monteverde has increased. Often the air around the mountaintops is too warm to condense the water vapor. So the water vapor keeps rising until it forms clouds high above the mountains. At the same time, the land below dries out. So the frogs (and their cousins, the toads) have a hard time finding

the water they need on the forest floor. 3

Turning Up the Heat Most scientists believe that people are causing many places on Earth to get warmer, including Monteverde. They call it global warming.

People often add to global warming by burning fuels such as oil, natural gas, and coal. These fuels power almost everything we plug in or drive. As the fuels are burned, a gas called carbon dioxide is given off. Carbon dioxide occurs naturally in our atmosphere. It helps to keep Earth warm by holding in the sun's heat. But having too much carbon dioxide in the air is like throwing a heavy blanket around the planet—it keeps in too much of the sun's heat, and the world gets warmer.

Missing Toad Alan J. Pounds is a scientist who has lived and worked in the Monteverde Cloud Forest Reserve for 24 years—and he's noticed a change in cloud cover and frog populations. "In the early 1980s, there were hundreds of golden

toads," he says. "But by 1989, people found only a few of them, and since then, we haven't seen any!"

High cloud formation caused by global warming is a serious problem. And according to Pounds, it adds to a growing list of troubles that the wildlife of Monteverde is faced with. "The frogs and other wild animals have to **cope** with many problems, such as **habitat** loss and disease. But when global warming is added to all these problems, it may push them over the edge to **extinction**." 4

You Can Help It's too late to save the extinct golden toads, but there are things that you and your family can do to keep the world from getting warmer. For starters, encourage your family to use the car less. Also, turn off the lights and appliances that you aren't using. All these things burn fuel and contribute to global warming. By becoming an Earth-friendly family, you'll help wildlife all around the world! ○

Text: Missing!	
Monday: First Read: Buddy Read or Independent Read for Gist LT: I can read a grade level passage and determine the gist Task: Students read passage, annotate and complete gist graphic organizer. Exit Ticket	Gist Organizer: Write the gist for each section
	Paragraphs 1-4
	Paragraphs 5-8
	Paragraphs 9-10
	Paragraphs 11-12
	Paragraph 13

Tuesday: Second Read: Vocabulary LT: I can use strategies to determine the meaning of unknown words and phrases. Task: Students reread passage, complete word list and possible definitions graphic organizer Exit Ticket			
	Vocab Word:	What I think it means:	Strategy that I used:

<p>Wednesday: Third Read: Key Ideas and Details</p> <p>LT: I will use text evidence to make connections between the events, ideas, or concepts in a text.</p> <p>LT: I will retell key ideas and determine the main idea of a text.</p> <p>Task: Students reread the passage and answer questions or discuss with a partner.</p> <p>Exit Ticket</p>	<div data-bbox="555 302 1302 414">Question 1: What is the main idea? (What is happening?)</div> <div data-bbox="555 414 1302 582">Use evidence from the text to demonstrate understanding of the main idea.</div> <div data-bbox="555 582 1302 779">Question 2: What are 2 -3 key details that support the main idea? (Why is it happening?)</div>
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<p>Thursday: Fourth Read: Craft and Structure</p> <p>LT: I will analyze how the text is organized and identify the author's point of view.</p> <p>Task: Students reread the passage and answer questions or discuss with a partner.</p> <p>Exit Ticket</p>	<p>Types of text Structure Description, Chronological Order, Compare Contrast, Cause/Effect, Problem/Solution</p> <div data-bbox="555 1070 1295 1265">Question 1: What is the author concerned about? (Remember some texts have more than one problem.)</div> <div data-bbox="555 1265 1295 1460">Question 2: What is the solution or solutions? (Look for words such as <i>need, help, can, and will</i> to locate solutions in a text.)</div>
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Friday: Final Read:

Integration of

Knowledge and Ideas

LT: I will compare/contrast the most important points in two texts on the same topic.

Task: Students will answer questions the teacher has created based on passage and standard.

Exit Ticket

Question 1: How are the texts "Missing!" and "Birdfoot's Grampa" *similar*?

Question 2: How are the two texts *different*?



by Joseph Bruchac

The old man
must have stopped our car
two dozen times to climb out
and gather into his hands
5 the small toads blinded
by our lights and leaping,
live drops of rain. **B**

The rain was falling,
a mist about his white hair
10 and I kept saying
you can't save them all,
accept it, get back in
we've got places to go.

But, leathery hands full
15 of wet brown life,
knee deep in the summer
roadside grass,
he just smiled and said
they have places to go to
20 too. **B** **7** **O**