

Before You Read

Missing! and Birdfoot's Grampa

Connect to the Article and the Poem

Have you ever watched a spider spin a web, a bird build a nest, or an ant carry a piece of food? How much attention do you pay to nature's small creatures?

Partner Talk With a partner, talk about the natural world around you. Are there small creatures you'd miss if they disappeared? What are they, and why would you miss them?

Build Background

Joseph Bruchac, the author of the poem "Birdfoot's Grampa," writes that Native Americans believe that humans have "a special mission" on Earth "to maintain the natural balance." The informational article "Missing!" describes how a change in temperature is harmful to Costa Rica's wildlife.

- Costa Rica is a tropical country in Central America.
- With mountains, forests, and two coastlines, Costa Rica has a great variety of plant and animal life.
- The Monteverde (mon' tə vār' də) Cloud Forest Reserve is in Costa Rica. It is a protected area for plants and wildlife and is home to hundreds of species of plants, birds, and other animals.
- About 25 percent of the land in Costa Rica is protected, including national parks and private reserves.

Vocabulary

vapor (vā' pər) *n.* a substance suspended in the air, as steam or fog (p. 856).

The smog was a noticeable vapor above the city.

droplets (drop' litz) *n.* tiny amounts of liquid (p. 857).

The rain fell in droplets that stung her face.

Meet the Authors

Claire Miller

Nature Lover Claire Miller writes for *Ranger Rick*, a children's nature magazine published by the National Wildlife Federation. She says, "No matter where you live, there's lots to discover right outside your door."



Joseph Bruchac

The Good Mind A member of the Abenaki tribe, Joseph Bruchac proudly bears his Native American name, *Gahnegohheyoh*, which means "the good mind." Bruchac is an award-winning author of more than 20 books and a professional teller of traditional Native American stories.



Literature Online

Author Search For more about Claire Miller and Joseph Bruchac, go to glencoe.com and enter QuickPass code GL29763u6.

Set Purposes for Reading

BQ BIG Question

As you read, ask yourself, what messages are the authors of "Missing!" and "Birdfoot's Grampa" trying to convey to readers?

Literary Element Description

Description is writing that creates an impression of a setting, a person, an animal, an object, or an event. Details in a description help readers see, hear, smell, taste, and feel what the author writes about.

In the informational article "Missing!", the description of the cloud forest in Costa Rica includes details that help you imagine how the clouds form and how they affect the area's frogs. These details help the author convey the ways that global warming is threatening wildlife.

As you read, ask yourself, how does each author's use of vivid verbs and adjectives help convey his or her purpose for writing?

Reading Skill Identify Problems and Solutions

Authors often organize the information in their articles by using a problem-and-solution structure. When you **identify problems and solutions**, you examine a text to understand a conflict, or problem, and how to solve it.

Identifying problems and solutions helps you understand what's happening in a text, why it's happening, and what is being done or what could be done about it. To identify problems and solutions as you read, think about these questions:

- What is the author concerned about? Remember that complicated issues can have more than one problem.
- What is the solution or solutions? Look for words such as *need*, *attempt*, *help*, *can*, and *will* to locate any solutions.

As you read, fill in a graphic organizer like the one below.

What problem does the author introduce?	→	What solution does the author describe?
	→	

Learning Objectives

For pages 854–861

In studying these texts, you will focus on the following objectives:

Literary Study:

Analyzing description.

Reading: Analyzing problem-and-solution text structure.

TRY IT

Identify Problems and Solutions

Think of a problem that you see every day in your neighborhood or at school. What is the problem? Can you think of possible solutions?

MISSING!

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.

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

Identify Problems

Solutions What is the problem in the Monteverde Cloud Forest Reserve?

Vocabulary

vapor (vā'pər) *n.* a substance suspended in the air, as steam or fog

vapor rises when heated by the sun. Strong winds can also blow it upward.

In Monteverde, the water vapor would often rise until it ran into cold air around the mountaintops. This cold air condensed¹ 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.

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.² 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.

1 When water vapor has **condensed**, it has come together to make drops of liquid water.

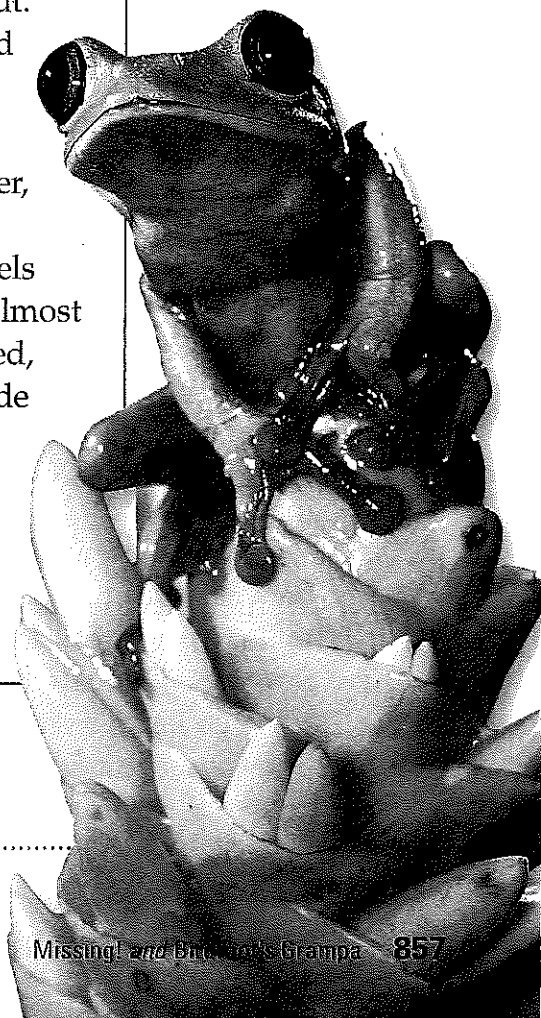
2 The **atmosphere** is the mixture of gases that surrounds Earth.

Vocabulary

droplets (drop' litz) *n.* tiny amounts of liquid

Description Which words in the author's description help you visualize how clouds formed around the mountaintops?

Identify Problems and Solutions How do the bold subheads in this article help you locate the problems and solutions?





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 habitat³ 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 appliances⁵ 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! 🐸

3 To **cope** means “to deal with and try to overcome.” A **habitat** is a plant or animal’s home, or a place where it naturally lives and grows.

4 **Extinction** is the act of wiping out of existence.

5 **Appliances** are machines or devices for household use that run on electricity.

Identify Problems and Solutions What does the author suggest that families do to prevent global warming?

Birdfoot's Grampa

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.

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.*

Description How does the description of the old man help you see and feel the scene?

BQ BIG Question

What lesson does this poem share with readers?



After You Read

Respond and Think Critically

1. In "Birdfoot's Grampa," why does the old man stop the car "two dozen times"? [Recall]
2. According to the article "Missing!" why are frogs and toads disappearing in the Monteverde Cloud Forest Reserve? [Summarize]
3. Think about what you learned in "Missing!" What can the presence of frogs and toads tell people about the health of the climate? [Infer]
4. According to "Missing!" how can you, the reader, help reduce global warming? Give specific examples. [Analyze]
5. Think about the old man in "Birdfoot's Grampa." Why does he want to save the toads? [Conclude]
6. **BQ** **BIG Question** What do "Missing!" and "Birdfoot's Grampa" tell you about how human activity affects other creatures? [Analyze]

Vocabulary Practice

On a separate sheet of paper, write the vocabulary word that correctly completes each sentence. If none of the words fits the sentence, write "none."

vapor

droplets

1. At the end of the long hike, Rebecca's face was covered with _____ of sweat.
2. All through the _____, the fragrance of flowers in bloom filled the air.
3. When the snow melted in spring, the ground was covered with deep _____ of watery mud.
4. The pavement was so hot that the rain turned into _____ only minutes after it fell on the blacktop.

Academic Vocabulary

The author of "Missing!" explains that human activities, such as burning fuels to power cars and appliances, have serious **environmental** effects. In the preceding sentence, *environmental* means "related to the natural world" or "the conditions that affect the lives of plants, animals, and people." Think about how people treat the natural world where you live. What environmental effects do these behaviors have?

TIP

Inferring

To answer question 3, you have to use your knowledge and clues from the article to make a good guess. Here are some tips to help you infer.

- Think about what the article says affects the temperature of Earth.
- Recall what frogs and toads need to survive.

FOLDABLES Study Organizer

Keep track of your ideas about the **BIG Question** in your unit Foldable.



Literature Online

Selection Resources

For Selection Quizzes, eFlashcards, and Reading-Writing Connection activities, go to glencoe.com and enter QuickPass code GL29763u6.

Literary Element Description

1. In "Missing!" what significant change in the Monteverde Cloud Forest Reserve does the author describe? How does the description help you understand the change?
2. In what way does the description of jumping toads in lines 5–7 of "Birdfoot's Grampa" appeal to the senses?
3. In "Birdfoot's Grampa," what does the second stanza tell you about the speaker of the poem?

Review: Alliteration

As you learned on page 190, poets use **alliteration**, or the repetition of consonant sounds at the beginnings of words, to stress certain words and ideas.

4. Read these lines from "Birdfoot's Grampa":

the small toads blinded
by our lights and leaping,
live drops of rain.

What sounds are repeated? What effect does the alliteration have?

Reading Skill

Identify Problems and Solutions

5. Think about the problems faced by the frogs and toads in "Missing!" and by the toads in "Birdfoot's Grampa." How are their problems similar? What makes their problems different?



Grammar Link

Tricky Subjects and Verbs In most sentences, the **subject** comes before the **verb**. There are two main exceptions.

Questions In many questions, all or part of the verb comes before the subject.

Do the speaker and the old man have
places to go?

helping verb / subject / main verb

To make it easier to find the subject and verb, turn the question into a statement.

The speaker and the old man do have
places to go.

Here/There The words *here* and *there* cannot be subjects. To find the subject of a sentence that begins with *here* or *there*, omit the word. Find the verb; then ask yourself, who or what _____?

There are clouds above the mountains of Monteverde.

There are clouds above the mountains of Monteverde.

Practice On a separate sheet of paper, copy each sentence. Underline the subject once and the verb twice.

1. Where do the clouds come from?
2. There are things that you and your family can do to keep Earth from getting warmer.
3. Here are some endangered frogs.

Research and Report

Internet Connection Use the Internet to research other works by Joseph Bruchac that might interest you or your classmates. Make an annotated list of Bruchac's works. In a sentence or two, explain what kind of work it is (for example, a poem or a story), what the work is about, and where online you learned about it.