

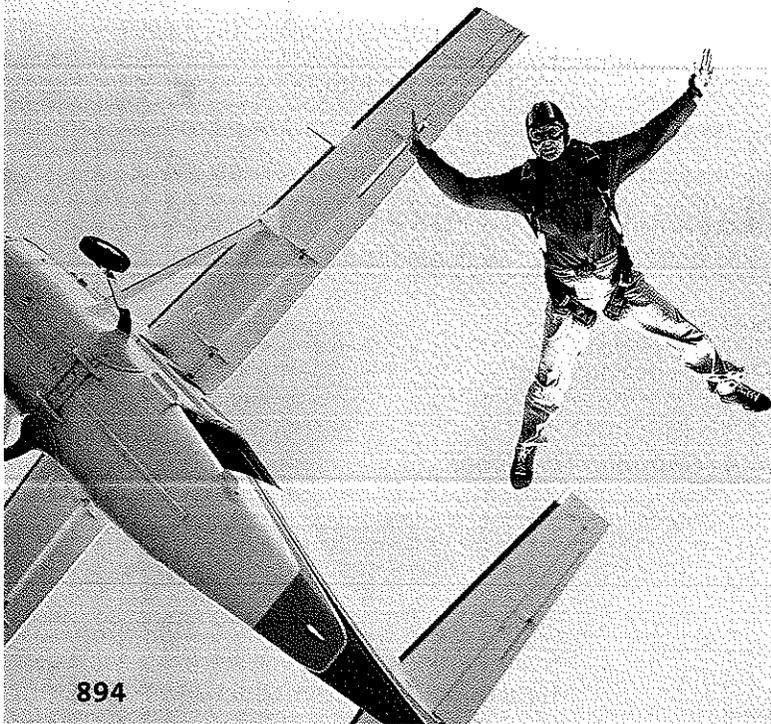
Over the Top: The True Adventures of a Volcano Chaser

Magazine Article by Renee Skelton

Why do people seek DANGER?

KEY IDEA Most people avoid **danger**. They buckle their seat belts when they fly on a plane. They take care not to anger mean dogs, not to swim where there are sharks, not to walk on thin ice. But then there are other people—the ones who dream of skydiving and who soar through half-pipes on their skateboards. The man featured in the article you're about to read belongs to this group. He's willing to risk his life to photograph mysteries of the earth.

WEB IT What dangerous activities are also popular pastimes? What is it about these activities that makes people willing to risk their safety? Use a web to explore the reasons why these activities can be viewed as both fun and dangerous.



Background

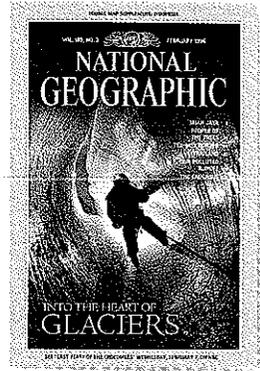
Renee Skelton: A Well-Versed Writer

Freelance writer Renee Skelton has written books and articles on topics ranging from American history to climate change. She lives in New Jersey and is a frequent contributor to *National Geographic Kids*.

Background

Sharing Science

National Geographic, first published in 1888, is one of the world's best-known magazines. It's especially known for its colorful, detailed photographs of geographic regions and the people who live there. The



photos are taken by some of the world's best photojournalists, people who present a news story primarily through photographs. These men and women travel the globe with their cameras, seeking out fascinating and sometimes dangerous locations.

Exploring the Unknown In the article you are about to read, photojournalist Carsten Peter visits an active volcano and chambers beneath glacial ice. No stranger to dangerous situations, Peter has captured stunning images of glaciers, caves, and tornadoes for the pages of *National Geographic*. Why is he so attracted to the dangerous natural wonders he photographs? "I'm most interested in the unknown," he says.



BUILDING BACKGROUND

To learn more about Carsten Peter and *National Geographic*, visit the Literature Center at ClassZone.com.

ELEMENTS OF NONFICTION: GRAPHIC AIDS

If you've read a magazine article lately, chances are you've come across a **graphic aid**, a visual representation of information. Writers use graphic aids to highlight or summarize important concepts and to explain things in fewer words. Common graphic aids include photographs, maps, diagrams, graphs, and timelines.

As you read "Over the Top: The True Adventures of a Volcano Chaser," note the graphic aids that are included. What do they help you understand? Take notes in a chart like the one shown.

Type of Graphic Aid	What It Explains

Review: Text Features

READING STRATEGY: ADJUST READING RATE TO PURPOSE

Effective readers change the speed at which they read to suit their purpose. Try this as you read the following article.

When your purpose is to	Adjust your rate like this
Get an overview of the article	Skim before you begin. This involves quickly reading the title, subheadings, and any graphic aids.
Find key words or particular information	Scan the text. This involves moving your eyes quickly over the text, looking for the words or information you need.
Gain a full understanding of something, or clarify information	Read the material at a slower pace, and reread if necessary.

To use the best strategy for your purpose, stay mindful of why you're reading and whether you need to adjust your rate.

VOCABULARY IN CONTEXT

The following vocabulary words help Renee Skelton tell about a man with a dangerous job. To see how many you know, match each word with its numbered synonym.

WORD LIST	cavernous	pinnacle	searing
	labyrinth	scale	straddle

- | | | |
|----------|---------|---------|
| 1. climb | 3. top | 5. maze |
| 2. vast | 4. span | 6. hot |

Over the Top

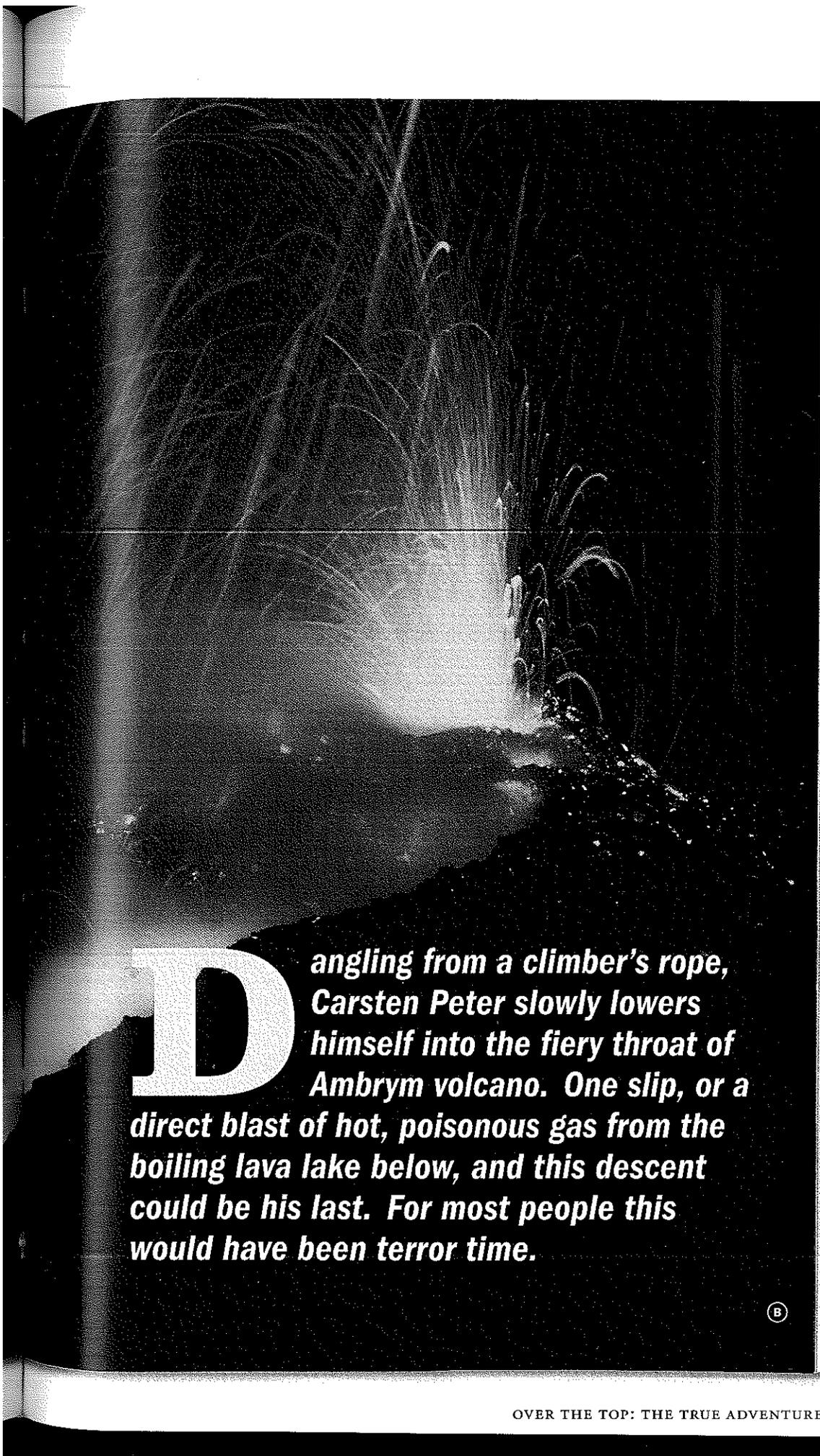
The True Adventures of a Volcano Chaser

Renee Skelton

A ADJUST READING
RATE

What can you expect to learn from this article? Take a minute to **skim** the selection and make some predictions about what you'll be reading.





Dangling from a climber's rope, Carsten Peter slowly lowers himself into the fiery throat of Ambrym volcano. One slip, or a direct blast of hot, poisonous gas from the boiling lava lake below, and this descent could be his last. For most people this would have been terror time.

(B)

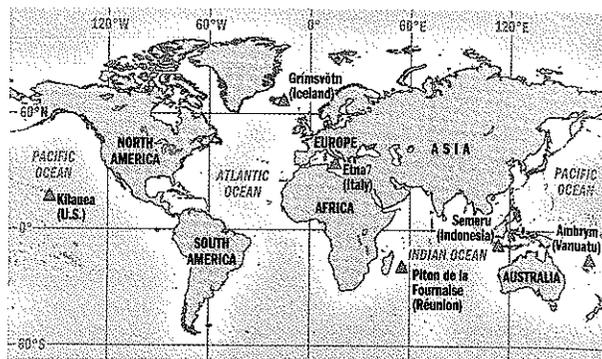
- B** GRAPHIC AIDS
What does this photograph suggest about what the article will focus on?

scale (skāl) v. to climb up or over; ascend

G GRAPHIC AIDS

Look carefully at the map and its caption. What facts does it offer that you don't get from the text?

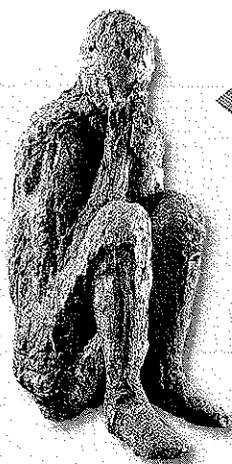
But for Peter it was all in a day's work. The daredevil photographer roams the world, **scaling** mountains and dropping into erupting volcanoes to photograph these fiery mountains at their most frightening—and most beautiful. Does he get scared? "Sure," Peter says. "You wouldn't be normal if you didn't get scared." But volcanoes are a window into Earth's scorching center. And for Peter, peering through that window with his camera is worth the risk.



Peter's adventures keep him globe-trotting. The map shows a few of the places he has explored volcanoes. **G**

Into a Boiling Pit

Ambrym is a tiny South Pacific island that consists of a flat-topped volcano. The volcano erupted violently about 2,000 years ago. The explosion left the



Long Ago

Mount Vesuvius's¹ eruption in A.D. 79 buried two Roman cities, killing 16,000 people.

Ring
Most volcanoes are concentrated around the edge of the Pacific Ocean, in the "Ring of Fire."



Loud

The 1883 explosion of Krakatoa, a volcano in Indonesia,² was heard 3,000 miles away.

Blown Away
In mere seconds, whole forests of trees around Mount St. Helens,³ Washington, were flattened in 1980. Trees 165 feet tall were blown down like toothpicks by the force of the volcano's eruption.

Up There

Mauna Kea, in Hawaii, is the world's tallest volcano. It is 30,000 feet high.



Out There

The biggest volcano in our solar system is Olympus Mons on Mars. It is 17 miles high. **D**

D ADJUST READING RATE

What is the tallest volcano on Earth? Scan these captions to find the answer.

1. **Mount Vesuvius** (vī-sōō'vē-əs): a volcano located in southern Italy.
2. **Indonesia** (īn-dō-nē'zhə): an island nation located in Southeast Asia.
3. **Mount St. Helens**: volcano located in southern Washington state.

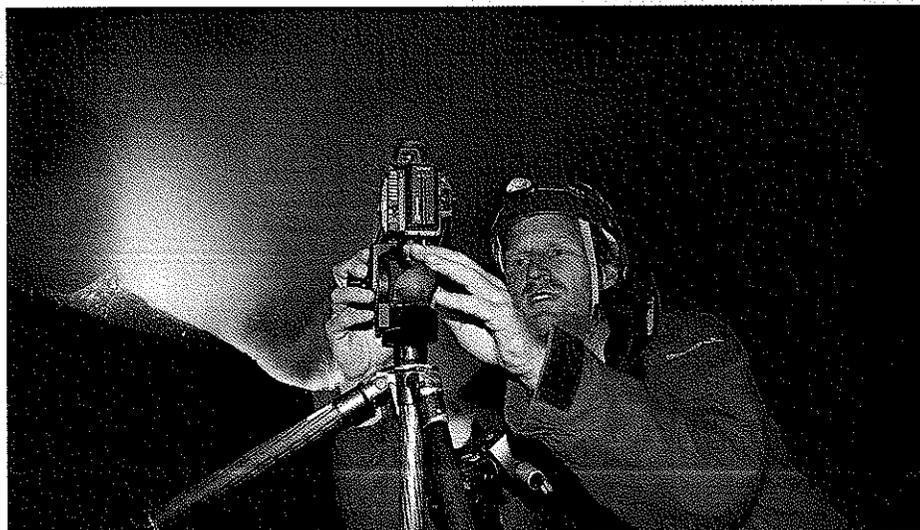
seven-and-one-half-mile-wide caldera, or wide crater, that now forms its top. Peter hoped to use one of the vent openings in Ambrym's caldera as a porthole into the volcano's fiery center.

30 When Peter arrived at Ambrym, the volcano was rumbling, its craters belching steam, gas, and ash. He and his group set out right away, hacking through dense jungle and climbing 4,000 feet up the side of the volcano. They emerged from the jungle onto the caldera's rim—a moonscape of boulders and gray-black ash.

After several days of exploring the caldera's surface, Peter decided to descend into Marum, one of Ambrym's pitlike craters. Wearing protective gear, he attached one end of a climbing rope to an anchor hammered into the ground and the other end to his descent device. Peter then disappeared over the edge of Marum's clifflike rim, camera equipment mounted on his helmet and tethered to his back and waist. Peter descended 1,000 feet down the face of the crater's steep walls,
40 as heat rising from the **searing** lava lake blasted him. Pockets of gas and water trapped in the lava expanded and exploded, sending out booms that echoed and shook the crater walls. "The Earth was trembling all around me," Peter says. "And I felt the vibrations all through my body." **E**

Peter had to be careful. A sharp rock could have cut his rope, dropping him into the **cavernous** pit. Tremors⁴ could have pried boulders from the cliff above, sending them crashing down on an arm or leg. Peter paused partway down, clutching the rope as volcanic ash stung his eyes and intense heat and sound from the blasting lava rose around him. "If the volcano had exploded then, it would have been the last eruption I ever saw," he says. He drew as close as possible to the spitting, belching lava lake at
50 the bottom. Glowing lava bombs were bursting like fireworks from its surface as Peter snapped photos all night.

4. **tremors** (trēm'arz): shaking or vibrating of the earth.



Peter captures images of the 2002 eruption of Mount Etna in Sicily.

searing (sir'yng) *adj.* hot enough to burn, char, or scorch

E ADJUST READING RATE

What steps did Peter take to safely descend into the crater? Reread lines 34–40 and note Peter's process.

cavernous (kāv'er-nəs) *adj.* as deep or vast as a cavern, or a large cave

F TEXT FEATURES

Based on this **subheading**, what can you predict about the content of this section?

G GRAPHIC AIDS

What does this **diagram** add to your understanding of the danger Peter faces while photographing Ambrym?

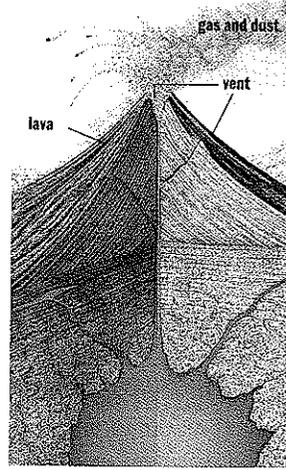
straddle (străd'ŭ) v. to be on both sides of

The next morning, exhausted, Peter attached his rope and pulled himself up to safety on Marum's rim. It was time to leave Ambrym for new adventures.

Fire and Ice

60 Half a world away in Iceland,⁵ the challenge was more ice than fire. Because of Iceland's location, many volcanoes

are hidden below its thick glacial ice. Iceland **straddles** the mid-Atlantic ridge, where two of the plates that form Earth's crust are pulling apart. The results are frequent tremors and volcanic eruptions. When volcanoes under Iceland's glaciers erupt, they burn through ice at the glacier's base. Escaping heat carves out spectacular formations under the ice.

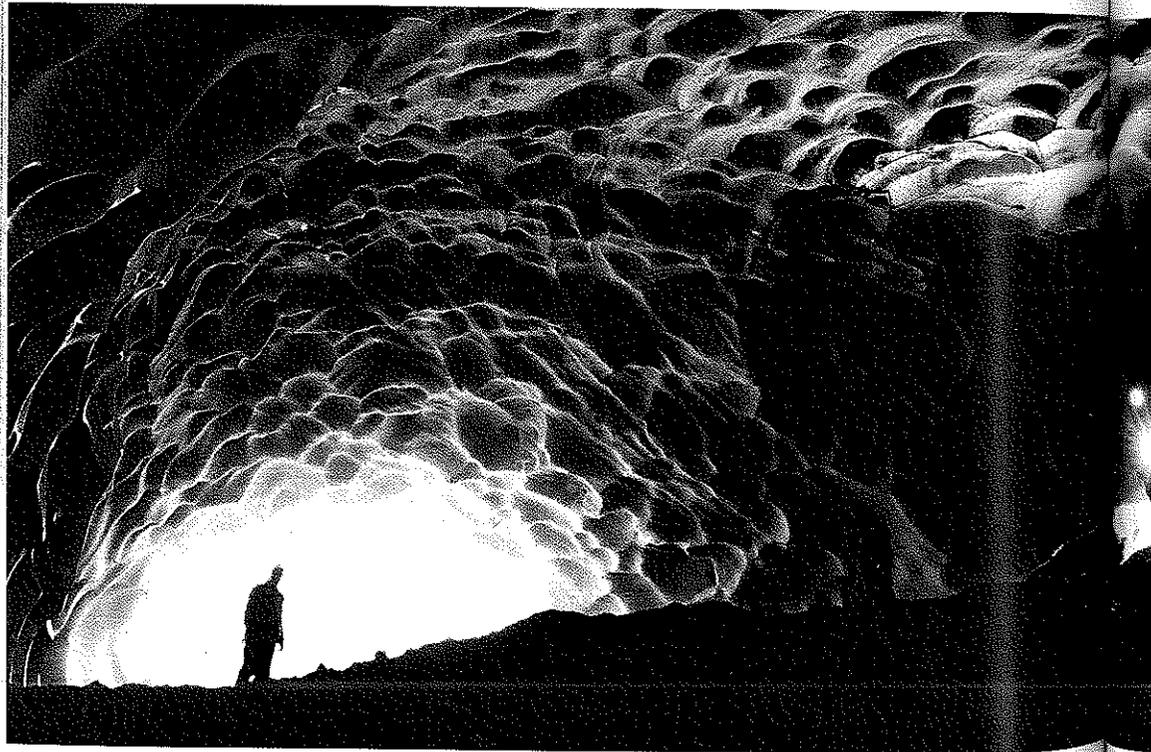


Signs That "It's Gonna Blow!"

1. In and around a volcano, the frequency and intensity of earthquakes increase.
2. The ground at the eruption site deforms or bulges.
3. The amount of gas released by the volcano increases.

G

5. **Iceland:** an island nation located in the North Atlantic Ocean near the Arctic Circle.



H GRAPHIC AIDS

What do these **photos** and captions add to your understanding of Peter's career?

H Intense heat from a volcano created this ice cave inside a glacier in Iceland.

70 Peter's goal was to photograph these underground wonders. After a jolting jeep ride over part of the glacier, Peter continued on foot—leaping crevasses, sloshing through icy rivers of meltwater, and scrambling over jagged ice **pinnacles**. “The heat created chambers inside the ice we were passing over,” says Peter. “We had to be very careful.” Peter found that out the hard way. Crossing an area of ice that looked solid, Peter stepped on a thin section and crashed through into a hidden river of icy water. He struggled to keep his head and cameras above water. The cameras didn't make it. Luckily Peter did, thanks to two friends who pulled him out of the frigid water.

Exploring the surface ice, Peter discovered a collapsed ice chamber that led to a **labyrinth** of ice caves and tunnels inside the glacier. “It was beautiful, but we
80 were in potential danger because the chamber could have collapsed at any time,” Peter says. “Also, we were in a region where earthquakes and floods are common occurrences.” But using carbide⁶ lights to illuminate the dark tunnels, Peter took incredible photos of the formations in the glacier's frozen heart. **1**

As you read this, Peter is probably perched on the rim of another volcano, camera in hand. He's withstanding heat from 2,200 degrees Fahrenheit lava flows and dodging deadly clouds of gas to get close to nature at its most extreme. Earth's geology continues to fascinate him. “Volcanoes are very powerful,” he says. “When you feel these eruptions, it's the greatest experience you can have.”

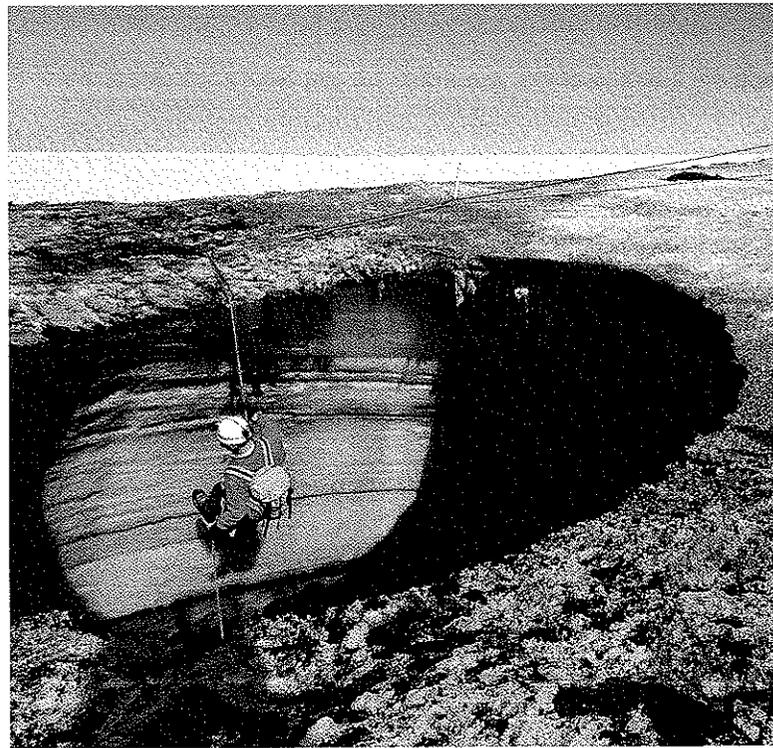
6. **carbide** (kär'bīd'): a very hard material made partly of carbon.

pinnacle (pīn'ə-kəl) *n.*
a peak; a pointed top

labyrinth (lăb'ə-rīnth')
n. a maze; an intricate structure of interconnected passages

1 **ADJUST READING RATE**

What three things posed a danger to Peter as he explored the ice chamber? **Scan** lines 78–82 to find the answer.



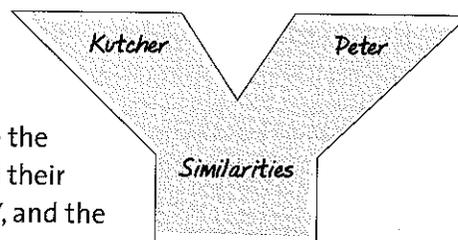
Peter lowers himself through a heat vent in Iceland's Grimsvötn volcano.

Comprehension

- 1. Recall** What could have killed or injured Carsten Peter as he photographed inside the Ambrym volcano?
- 2. Recall** What did Peter go to Iceland to photograph?
- 3. Represent** Using the information provided by the captions on page 898, draw a simple timeline that shows the order in which three famous volcanoes erupted.

Critical Analysis

- 4. Analyze Reading Rate** What part of the article did you read most quickly? When did you have to change your reading rate? Explain which strategy you found most useful as you read.
- 5. Draw Conclusions** Why do you think Carsten Peter feels it is important to photograph volcanoes in spite of the **danger** involved?
- 6. Compare and Contrast** In what ways are the careers of Steven Kutcher (“The Spider Man Behind *Spider-Man*,” page 886) and Carsten Peter alike? In what ways are they different? Complete a Y-chart like the one shown to compare and contrast the two men and their careers. Record the differences in the top part of the Y, and the similarities in the bottom.
- 7. Evaluate Graphic Aids** Look back at the chart you made as you read. What information do you get from the graphic aids? Would this information have been more or less clear if it had been included with the main text but without any visuals? Explain.



Extension and Challenge

- 8. Readers' Circle** Carsten Peter obviously believes that the risks he takes are worth the results. Imagine that he is a member of your family, such as your brother, uncle, or father. Would you support his choices, or would you urge him to find a safer career? Discuss your ideas.
- 9. SCIENCE CONNECTION**  How are volcanoes formed? What causes them to erupt? Research these questions about volcanoes, and ask one additional question of your own. Present your findings to the class in the form of a “slide show,” either on paper or the computer.



RESEARCH LINKS

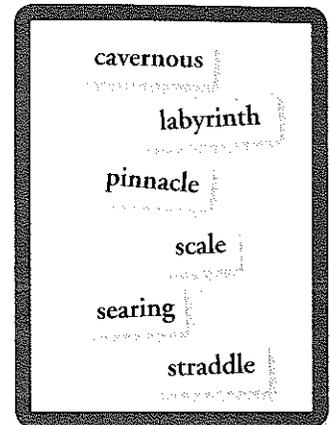
For more on volcanoes, visit the [Research Center at ClassZone.com](http://ResearchCenteratClassZone.com).

Vocabulary in Context

VOCABULARY PRACTICE

For each item, choose the word that differs most in meaning from the other words. Refer to a dictionary if you need help.

1. (a) searing, (b) scorching, (c) frigid, (d) sweltering
2. (a) descend, (b) scale, (c) climb, (d) ascend
3. (a) slant, (b) tilt, (c) straddle, (d) lean
4. (a) maze, (b) labyrinth, (c) network, (d) beeline
5. (a) gaping, (b) shallow, (c) deep, (d) cavernous
6. (a) pinnacle, (b) bottom, (c) base, (d) foot



VOCABULARY IN WRITING

Using at least two vocabulary words, write a paragraph about a daring sport or exciting hobby that you've tried or want to try. You might start like this.

EXAMPLE SENTENCE

I was terrified as we climbed slowly to the pinnacle of the mountain.

VOCABULARY STRATEGY: WORD ORIGINS

Many common words in the English language have interesting histories. For example, the vocabulary word *scale* comes from the Latin word *scalae*, meaning "ladder." It makes sense, then, that to scale something means to climb it.

You can find a word's **etymology**, or the history of the word, in most dictionaries. Understanding etymologies can help you connect the word's meaning to something you already know. Here is an example of an etymology:

expand (ĭk-spānd') *v.* to become greater in size, quantity, volume, or scope [Middle English *expanden*, to spread out, from Latin *expandere*: *ex-* + *pandere*, to spread]

PRACTICE Look up the etymology of each word in the dictionary. Write the word's origin, and tell how knowing the word's history can help you remember its meaning.

1. intense
2. grief
3. sparse
4. glacier
5. danger



VOCABULARY PRACTICE

For more practice, go to the Vocabulary Center at ClassZone.com.