

Danger Zones

ACADEMIC PATHWAYS

Lesson A: Organizing your notes

Analyzing and evaluating evidence

Lesson B: Interpreting information in a multimodal text

Lesson C: Writing an introductory paragraph

Writing a set of paragraphs



Think and Discuss

1. What types of natural events can be dangerous to humans? Which are the most dangerous, and why?
2. Why do you think some people live in areas that are affected by extreme natural events?

▲ Children play on a swing within sight of the steaming volcano Popocatepetl in the state of Puebla, Mexico.

Exploring the Theme

- A.** Look at the map and the photos. What do you think the red areas show?
- B.** Read the information and check your answer to **A.** Then discuss the questions.
1. Where can you find the most earthquakes and volcanoes?
 2. Where do most cyclones occur?
 3. What do many of the places affected by natural hazards have in common?

World of Hazards

As this map shows, natural hazards tend to occur regularly in certain parts of the world. For example, most earthquakes and volcanoes occur at or near plate boundaries, whereas cyclones (large storm systems that cause coastal flooding) form in the tropics. Many of the world's most hazardous areas are also places with dense human populations.

1 Earthquake

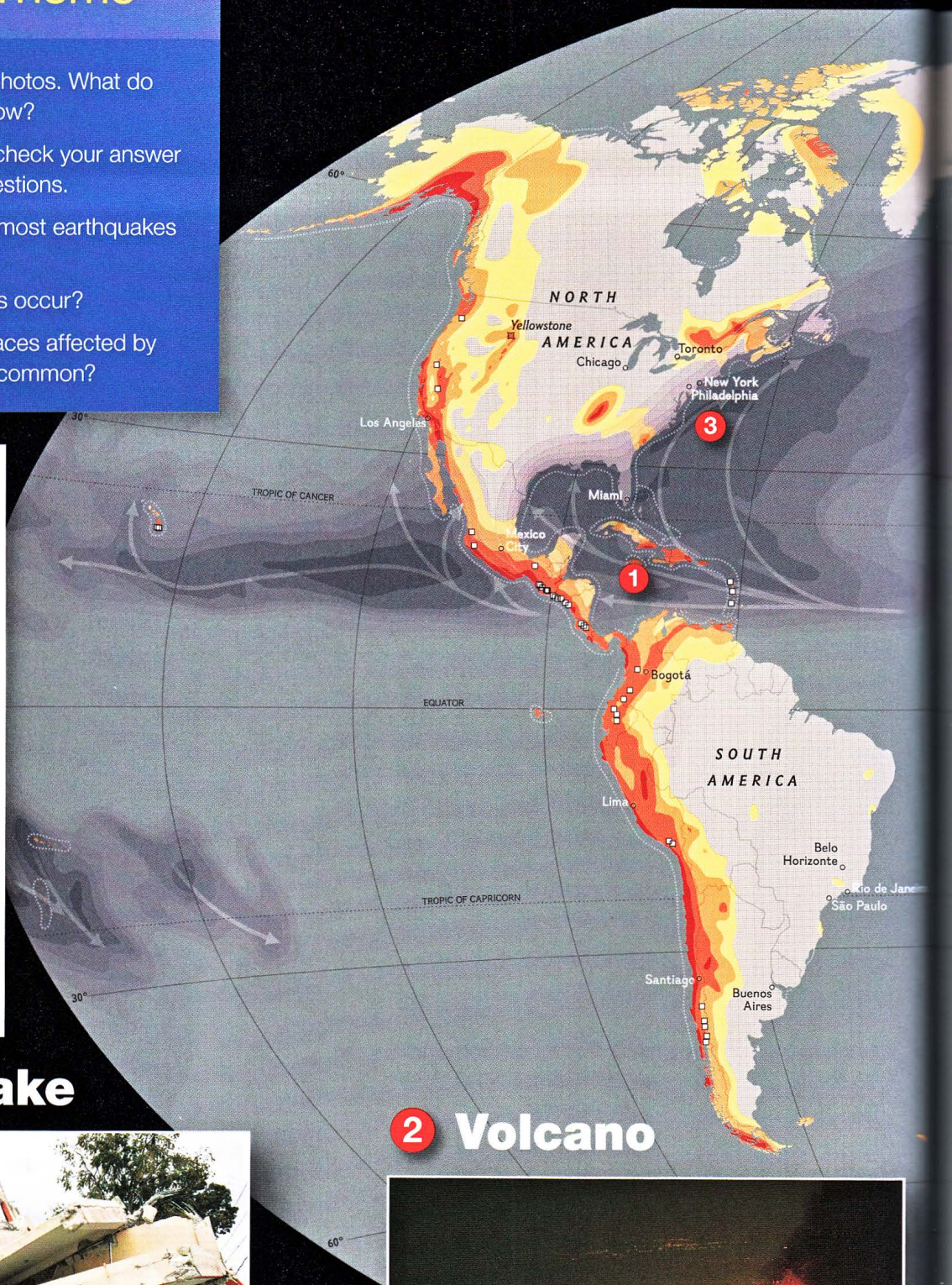


Port-au-Prince, Haiti

2 Volcano



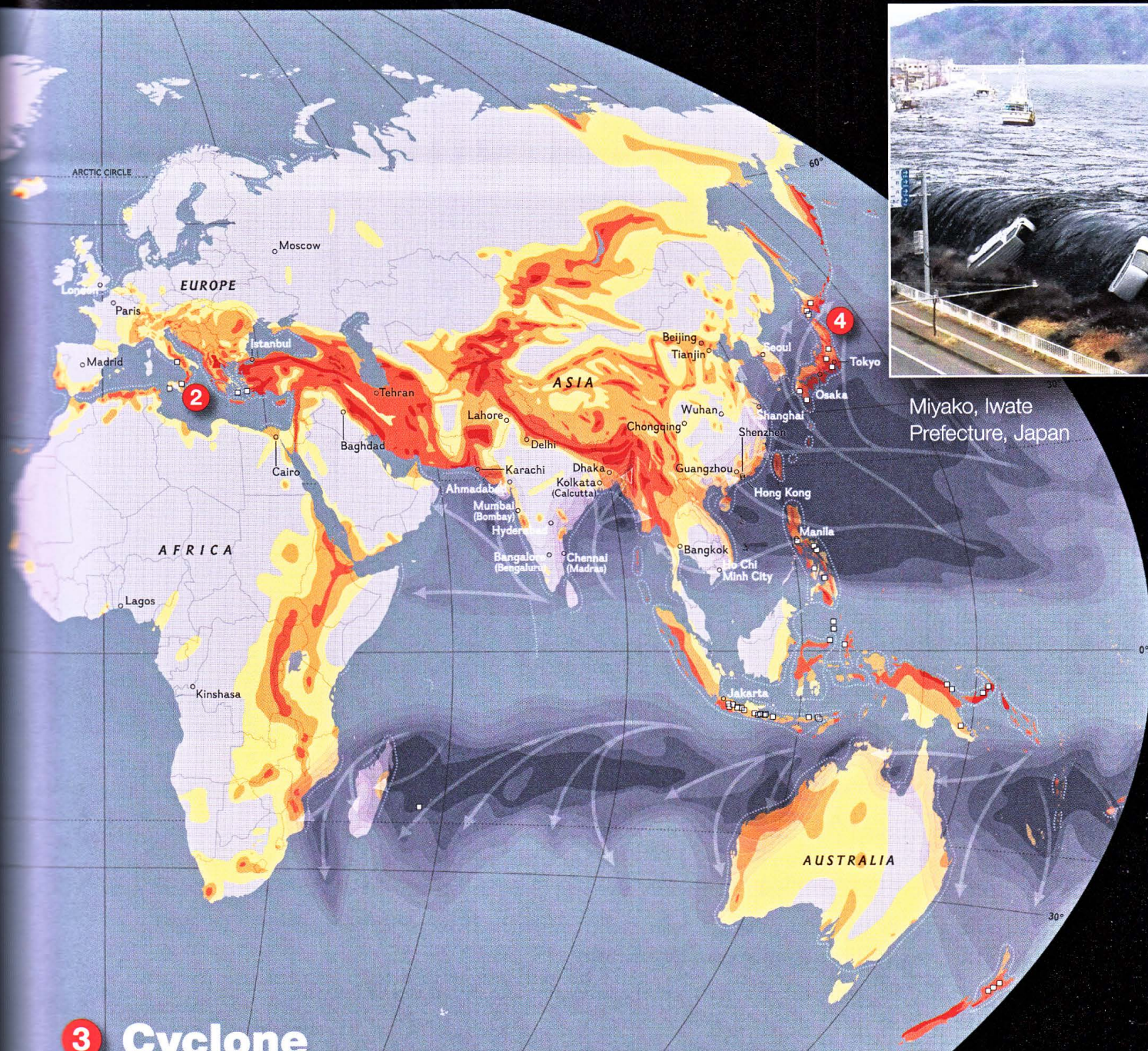
Mount Etna, Italy



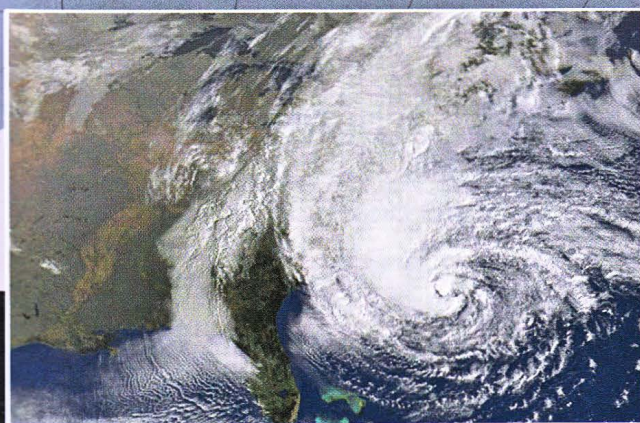
4 Tsunami



Miyako, Iwate Prefecture, Japan



3 Cyclone



Hurricane Sandy heads toward the U.S.A.

Earthquake intensity

Modified Mercalli scale

- Catastrophic
- Destructive
- Very strong
- Strong
- Moderate

Most dangerous volcanoes



Tropical cyclones

Wind speed
(miles an hour)

- 186 or more
- 157-185
- 132-156
- 115-131
- 88-114
- 47-87

← Typical path

Tsunamis and storm surges

Coast vulnerable to inundation from a tsunami, storm surge, or both



0 mi 1,000
0 km 1,000

SCALE AT THE EQUATOR

SAM PEPPLE, NGM STAFF
REWSARCH, LISA R. RITTER, NGM STAFF
KATHY W. WARRALL, NGM STAFF
DATA: MÜNCHENER RÜCKVERSICHERUNGS-GESELLSCHAFT
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Cities of five million or more shown

- A | Building Vocabulary.** Find the words in **blue** in the reading passage on pages 73–75. Use the context to guess their meanings. Then circle the correct word in each pair (1–10) to complete the paragraph.

Last year, there was an unusual 1. **commission** / **concentration** of earthquakes in our area over a three-month period. This area is 2. **prone to** / **reluctant to** earthquakes, but there hadn't been one in at least a decade. Many people were 3. **indicative** / **injured** when some walls of older buildings fell. Our mayor recently set up a 4. **commission** / **concentration** to investigate ways to raise money to repair the city's damaged historic buildings. When some citizens proposed tearing down some of the older buildings, the mayor's response was 5. **emphatic** / **reluctant**: the buildings are important to the town's history, she argued, and must be protected. Her decision was supported by about half of the town's citizens. Only about a quarter of the town's population felt the buildings should be torn down and 6. **approximately** / **emphatically** one-quarter didn't have an opinion. These days, most people think that the earthquakes have stopped at least for a while, but some locals are not 7. **convinced** / **reliable** and are 8. **prone to** / **reluctant to** stay. They feel that predictions about earthquakes are not 9. **convinced** / **reliable**, and we can never know when the next one will strike.



- B | Using Vocabulary.** Answer the questions. Share your ideas with a partner.

1. What weather signs are **indicative** of an approaching storm?
2. **Approximately** how often does your area have strong rainstorms?
3. Where do you look for weather updates? What do you think is the most **reliable** source of information?



- C | Brainstorming.** Discuss your answers to these questions in small groups.

1. Where do most people in your country live? In cities? Near water? Near mountains? Why do you think they live there?
2. How do volcanoes affect the lives of people who live near them?

- D | Predicting.** Look at the photos and read the title and headings in the reading passage on pages 73–75. What do you think the reading is about? Circle your answer and check your prediction as you read.

- a. how to minimize the damage caused by earthquakes
- b. why the risk of damage from natural disasters is increasing
- c. where most natural disasters happen and how to predict them

Word Link

vict, vinc =
conquering:
victory, **convince**,
invincible

Coping in a World of Risk



▲ Over the past decade, Australia's rural farming communities, including Balranald, New South Wales, have been affected by drought.



track 1-07

FOR DECADES, scientists have been researching ways to predict natural disasters. **Reliable** methods of prediction could save hundreds—or sometimes thousands—of lives. However, despite researching various early warning signs that might indicate impending¹ disasters, scientists have not generally been successful at making reliable predictions. Some experts and governments have come to the conclusion that if natural disasters cannot be reliably predicted, then anticipation and preparation are the best defenses we have.

IS RISK ON THE RISE?

Most scientists acknowledge that the risk of earthquakes, volcanic eruptions, hurricanes, floods, and drought is increasing, partly as a result of global warming. While they are **reluctant** to point to specific natural events as being caused by climate change, most scientists agree that the consequences of global

warming will likely continue to have a significant impact on the number and the severity of natural disasters.

Take, for example, the drought that has struck Australia for more than a decade. This calamitous² dry spell has destroyed orchards,³ livestock, and many of the nation's rice farms. Climatologists⁴ say this damage and destruction fits the pattern they expect from global warming. The same is true in Bangladesh, where people have been coping with the opposite problem—flooding. Two-thirds of this country of 150 million people is less than 17 feet (5 meters) above sea level. Climatologists say that by 2050, **approximately** one-fifth of the land could be under water due to rising sea levels, driving millions inland to already crowded cities.

¹ An **impending** event is one that is going to happen very soon.

² If an event is **calamitous**, it causes a great deal of damage or distress.

³ An **orchard** is an area of land on which fruit trees are grown.

⁴ A **climatologist** is a person who studies climates, or weather and its effects.

In the past 15 years, there has also been an increase in the number of hurricanes hitting the U.S. coast. Experts predict that this increase will continue. “We expect the number of strikes over the next five years to be about 30 percent higher than the long-term historical average,” says Robert Muir-Wood of Risk Management Solutions, a company that advises insurance companies.

Some of the increased risk comes as the result of human behavior, such as increased human migration to high-risk areas. “Whether by choice, chance, or mistake, more of us have been moving into hazard-prone regions,” says Brendan Meade, a geophysicist⁵ at Harvard University. One-third of the world’s population currently lives within 60 miles (100 kilometers) of the coast, where people face greater risks from tsunamis and hurricanes. Other people settle in earthquake zones, or live dangerously close to volcanoes. Still others live near rivers that are prone to flooding during heavy rains.

Why do so many people choose to live in these high-risk areas? One reason is that farmers prefer the fertile lands of river deltas and volcanic slopes. Another likely factor is that workers in industrial countries find more jobs in coastal cities, where trade and international commerce thrive. People also sometimes choose to live near rivers, mountains, and beaches for their scenic beauty, and because of the many opportunities for outdoor activities.

TAKING ACTION TO REDUCE RISK

Whatever the causes of the increased risk may be, the costs of disasters keep growing. Disaster-related risks are nine times higher than they were in the 1960s. Many nations are therefore taking action to protect their populations. In the Netherlands, for example, architects have designed floating houses that rise and fall with the changing water level in rivers. In the United Kingdom, government officials are strengthening flood-control barriers on London’s River Thames. Chicago, Shanghai, and other cities are using green rooftops to reduce the effects of urban heat islands.⁶ Considering the uncertainties of climate change and the difficulties of prediction, nations around the world are taking steps to get ready before the next disaster strikes.

⁵ A **geophysicist** is a person who studies the Earth’s physical properties and processes.

THE PROBLEM OF PREDICTION

In March 2009, a laboratory technician named Gioacchino Giuliani believed that a big earthquake would soon strike the Abruzzo region of central Italy. Giuliani warned that an increased concentration of radon gas in the area, along with tremors over previous months, were indicative of a coming earthquake near the town of L’Aquila. A week after his prediction, a 6.3-magnitude earthquake hit L’Aquila. Some 300 people were killed, and tens of thousands were injured or made homeless.

Had Giuliani predicted the earthquake? Most scientists were not convinced. This was the third time Giuliani had warned of an impending earthquake based on similar evidence, and the previous two times he had been wrong. After the L’Aquila disaster, the Italian government asked U.S. seismologist⁷ Thomas Jordan to lead an international commission to determine whether earthquakes were predictable. The commission’s answer was an emphatic no. “It would be fantastic and exciting if we were able to predict the time and place of damaging earthquakes,” says Michael Blanpied, a member of the National Earthquake Prediction Evaluation Council, “but so far we’ve had no success with specific predictions.”

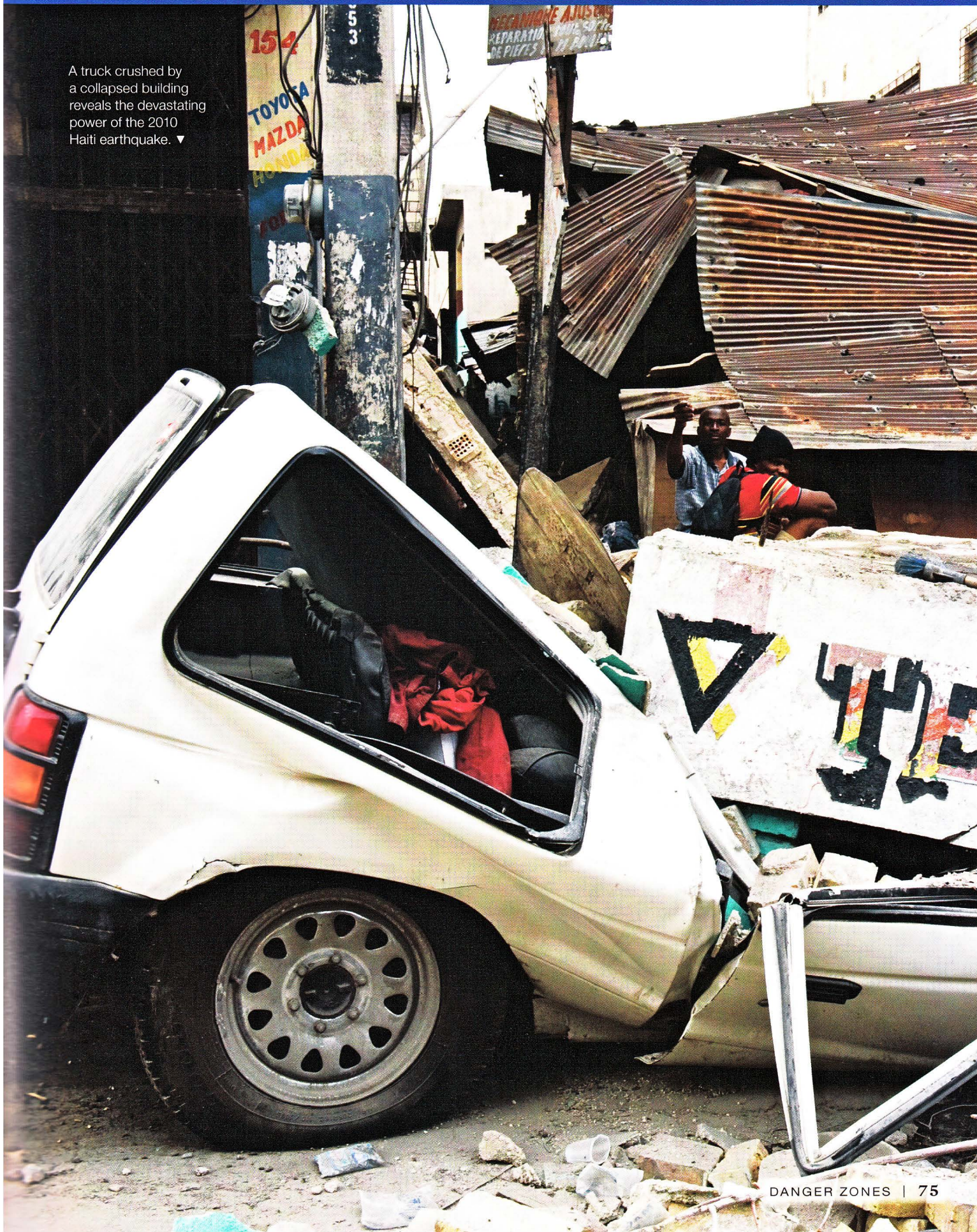
Seismologist Susan Hough agrees. “The public would like scientists to predict earthquakes,” she says, “[but] we can’t do that. We might never be able to do that.” As with other natural disasters, earthquake preparedness might be our best defense, for example, by doing things such as upgrading existing buildings, building stronger new buildings, and educating citizens about what to do in the event of a disaster. In this way, says Hough, we “can stop worrying about predicting the unpredictable and start doing more to prepare for the inevitable.”

Update: On October 22, 2012, six Italian scientists and a government official were sentenced to six years in prison for giving “incomplete, imprecise, and contradictory” information before the 2009 L’Aquila earthquake. They plan to appeal the conviction.

⁶ The **urban heat island** effect refers to the way cities with concrete and brick buildings and streets absorb the sun’s energy and heat the air, increasing the temperature around them.

⁷ A **seismologist** is a scientist who studies earthquakes.

A truck crushed by
a collapsed building
reveals the devastating
power of the 2010
Haiti earthquake. ▼



- A | Identifying Main Ideas.** Write the paragraph letter from the reading on pages 73–75 that best matches each main idea.

- _____ 1. The cost of disasters is growing, and some countries are finding ways to protect their citizens.
- _____ 2. Because we can't predict earthquakes, the best thing we can do is prepare ourselves.
- _____ 3. There is evidence that global warming is causing severe droughts and flooding.
- _____ 4. People choose to move to high-risk areas for various reasons.
- _____ 5. More people are moving to hazard-prone areas, which is increasing risk.

- B | Identifying Key Details: Scanning for Numbers.** What does each number from the reading represent? Match each number to the correct information.

- | | |
|----------------------|---|
| _____ 1. 150 million | a. the magnitude of the earthquake that hit L'Aquila |
| _____ 2. 2050 | b. the distance, in miles, that one-third of the world's population lives from the coast |
| _____ 3. 30 percent | c. the year that an Italian man predicted an earthquake would strike Abruzzo |
| _____ 4. 60 | d. the population of Bangladesh |
| _____ 5. 2009 | e. how much higher the average number of hurricanes hitting the U.S. coast will be in the next five years |
| _____ 6. 6.3 | f. the number of people who were killed in the L'Aquila earthquake |
| _____ 7. 300 | g. the year by which one-fifth of Bangladesh might be under water |

- C | Identifying Reasons.** Complete the chart with information from the reading.

High-risk Area	Why It's Dangerous (Type of Risk)	Why People Live There
Near the coast		
Close to volcanoes		
Near rivers		



- D | Critical Thinking: Analyzing Evidence.** Find at least one fact and at least one quote from an expert that supports each claim below from the reading. For each quote, include the name of the speaker. Then discuss with a partner: Does the evidence for each claim seem convincing? Why or why not?

Claim	The risk of natural disasters is increasing.	Earthquakes cannot be predicted.
Fact		
Quote		

CT Focus

Writers often provide details or examples as **evidence** to prove or support a claim made in an article. Evidence can be provided as a factual statement or as a quote from an expert in the field.

Reading Skill: Organizing Your Notes

Taking notes on a long reading passage can help you to:

- understand the passage (it helps you to pay attention to the most important ideas).
- memorize and organize key facts more easily.
- recall and use the information at a later time, for example, in an essay or an exam.

You probably take notes in the margins of a text, or highlight or underline key points as you read. After you've finished reading, however, you can organize your notes in a graphic organizer. For example, if the reading passage describes a process or a sequence of events, you can organize your notes in an outline or on a time line. If the reading passage compares two things, you can write notes in a T-chart or a Venn diagram. If the passage, or a section of a passage, describes information related to a main idea, you can organize your notes using a concept map.

Remember to leave out repeated information and any unnecessary words to make your notes as brief as possible.

For more information about note-taking, see page 242.

- A | Categorizing Information.** Complete this concept map using information from “Taking Action to Reduce Risk” on page 74.

Problem: Increase in disaster-related risks

↓

Why?

Solutions: Nations are _____.

Examples

Where?			cities such as _____ _____
How?	floating _____ _____ _____		

- B | Sequencing Information.** On a separate piece of paper, create a timeline to note the sequence of events described in the section “The Problem Of Prediction” on page 74.

Hurricanes

▲ Hurricane winds hit downtown Miami, Florida, during Hurricane Wilma, one of the most intense tropical cyclones ever recorded in the Atlantic.

Before Viewing

- A | Using a Dictionary.** Here are some words you will hear in the video. Match each word with the correct definition. Use your dictionary to help you.

atomic bomb	hallmark	sensor	tropical	warning
-------------	----------	--------	----------	---------

- _____ : from an area of the world that is characterized by a hot climate
- _____ : a hint of danger
- _____ : a nuclear weapon that releases an enormous amount of energy
- _____ : a device that can notice and measure signals or changes
- _____ : a characteristic or feature of something

- B | Thinking Ahead.** How do hurricanes form? Number the sentences in order (1–7). Share your ideas with a partner. Then check your predictions as you view the video.

- _____ The storm becomes a hurricane when winds reach 74 miles per hour.
- _____ Dry air blowing downward in the center creates a calm area called the eye.
- _____ Warm, moist air above these areas form thunderstorms.
- _____ When the winds are faster than 39 miles per hour, it is called a tropical storm.
- 1 The sun heats large areas of tropical ocean to more than 82 degrees Fahrenheit.
- _____ Winds form a circular pattern of clouds called a tropical depression.
- _____ In the eye wall, bands of rain and winds of up to 200 miles an hour spiral upward.

While Viewing

Read questions 1–3. Think about the answers as you view the video.

- What are two other words for “hurricane”?
- How much energy does a hurricane release in one day?
- In what seasons of the year do hurricanes form?

After Viewing

- A |** Discuss your answers to questions (1–3) above with a partner.

- B | Critical Thinking.** What is one thing that hurricanes and earthquakes have in common? What is one way they are different?

A | Building Vocabulary. Find the words in **blue** in the reading passage on pages 80–84. Use the context to guess their meanings. Then match the sentence parts below to make definitions.

- | | |
|---|---|
| 1. When you accumulate things, _____ | a. the maximum area it can reach. |
| 2. If something collapses , _____ | b. a volcano throws out hot rock, ash, and steam. |
| 3. If something is compacted , _____ | c. something or someone that has extremely good or special qualities. |
| 4. A crack is _____ | d. you collect or gather them over a period of time. |
| 5. An eruption is an event when _____ | e. it falls down suddenly. |
| 6. If an object explodes , _____ | f. it bursts with great force. |
| 7. You use extraordinary to describe _____ | g. it usually happens or it often happens. |
| 8. The pressure in a place or container is _____ | h. it is densely packed or pressed together as a result of external pressure. |
| 9. The range of something is _____ | i. a line that appears on the surface of something when it is slightly damaged. |
| 10. If something tends to occur, _____ | j. the force produced in that space by a quantity of gas or liquid. |

B | Using Vocabulary. Answer the questions in complete sentences. Then share your sentences with a partner.

- What kinds of things have you **accumulated** in your home?
- What type of music do you **tend to** listen to most? _____
- Name someone you think is **extraordinary**. Explain your answer.


C | Brainstorming. What do you know about volcanoes? How do you think a “supervolcano” might be different from other volcanoes? Discuss your ideas in a small group.

Word Partners

Use **tend to** with verbs: tend to **agree**, tend to **avoid**, tend to **feel**, tend to **forget**, tend to **happen**, tend to **think**; and with nouns: **people** tend to, **children/men/women** tend to.

D | Predicting. Read the title and the three headings in the reading passage on pages 80–84.

- How is the information presented? Circle all that apply.
explanatory text infographics pie chart map time line Venn diagram
- What do you think the reading explains? As you read, check your prediction(s).
 - how a specific supervolcano in the USA was formed
 - how to protect yourself from a supervolcano
 - how a supervolcano can affect large parts of the world



Yellowstone's Smoking Bomb



track 1-08

YELLOWSTONE NATIONAL PARK, the oldest and most famous national park in the United States, sits on top of one of the biggest volcanoes on Earth. Yellowstone's volcano is so big that many scientists call it a *supervolcano*. As the name suggests, supervolcanoes are much bigger and more powerful than ordinary volcanoes, and their **eruptions** can be exceptionally violent and destructive. When volcanoes erupt, they can kill plants and animals for miles around. When a supervolcano **explodes**, it can threaten whole species with extinction by changing the climate across the entire planet.

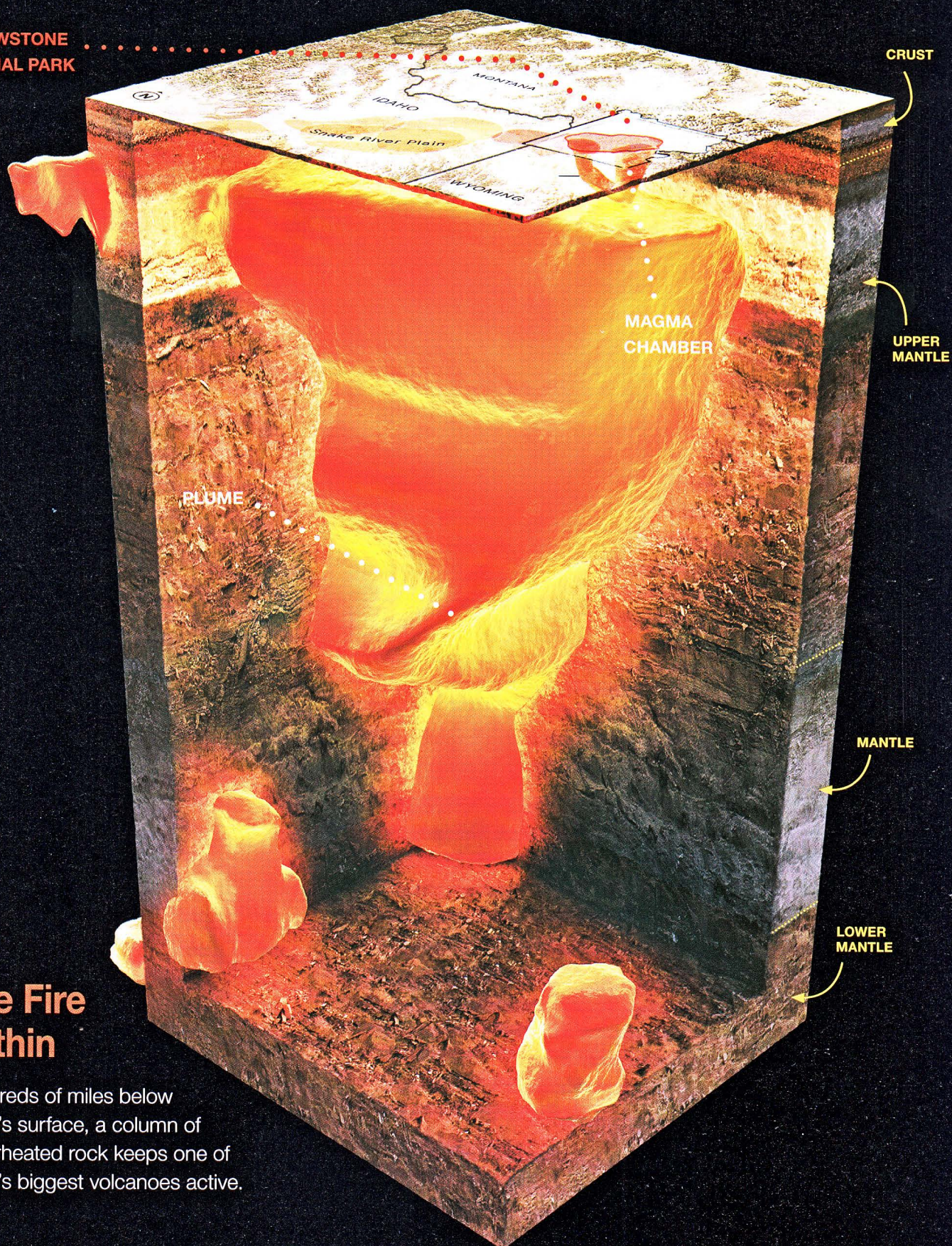
What Causes a Supervolcano to Erupt?

No supervolcano has erupted in recorded human history. However, in the 2.1 million years that Yellowstone has sat over the supervolcano, scientists believe that the park has experienced three super-eruptions. Geologists who study Yellowstone's

supervolcano have pieced together the sequence of events that probably cause a super-eruption. First, an intense plume of heat pushes up from deep within the Earth. The extreme heat melts rock and creates a huge chamber a few miles below the surface. The chamber slowly fills with a pressurized mix of magma (melted rock), water vapor, carbon dioxide, and other gases. As additional magma **accumulates** in the chamber over thousands of years, the land on the surface above it begins to move up to form a dome, inches at a time. As the dome moves higher, **cracks** form along its edges. When the **pressure** in the magma chamber is released through the cracks in the dome, the gases suddenly explode, creating a violent super-eruption and emptying the magma chamber. Once the magma chamber is empty, the dome **collapses**, leaving a giant *caldera*, or crater, in the ground. Yellowstone's caldera, which covers a 25-by-37-mile (or 40-by-60-kilometer) area in the state of Wyoming, was formed after the last super-eruption some 640,000 years ago.

(continued on page 84)

**YELLOWSTONE
NATIONAL PARK**



The Fire Within

Hundreds of miles below Earth's surface, a column of superheated rock keeps one of Earth's biggest volcanoes active.

A Waking Giant?

1870: Army officer Gustavus Doane explores the region that will later become Yellowstone National Park. He notices there is a huge open space, or basin, surrounded by mountains, and concludes that it is the crater of a huge extinct volcano.

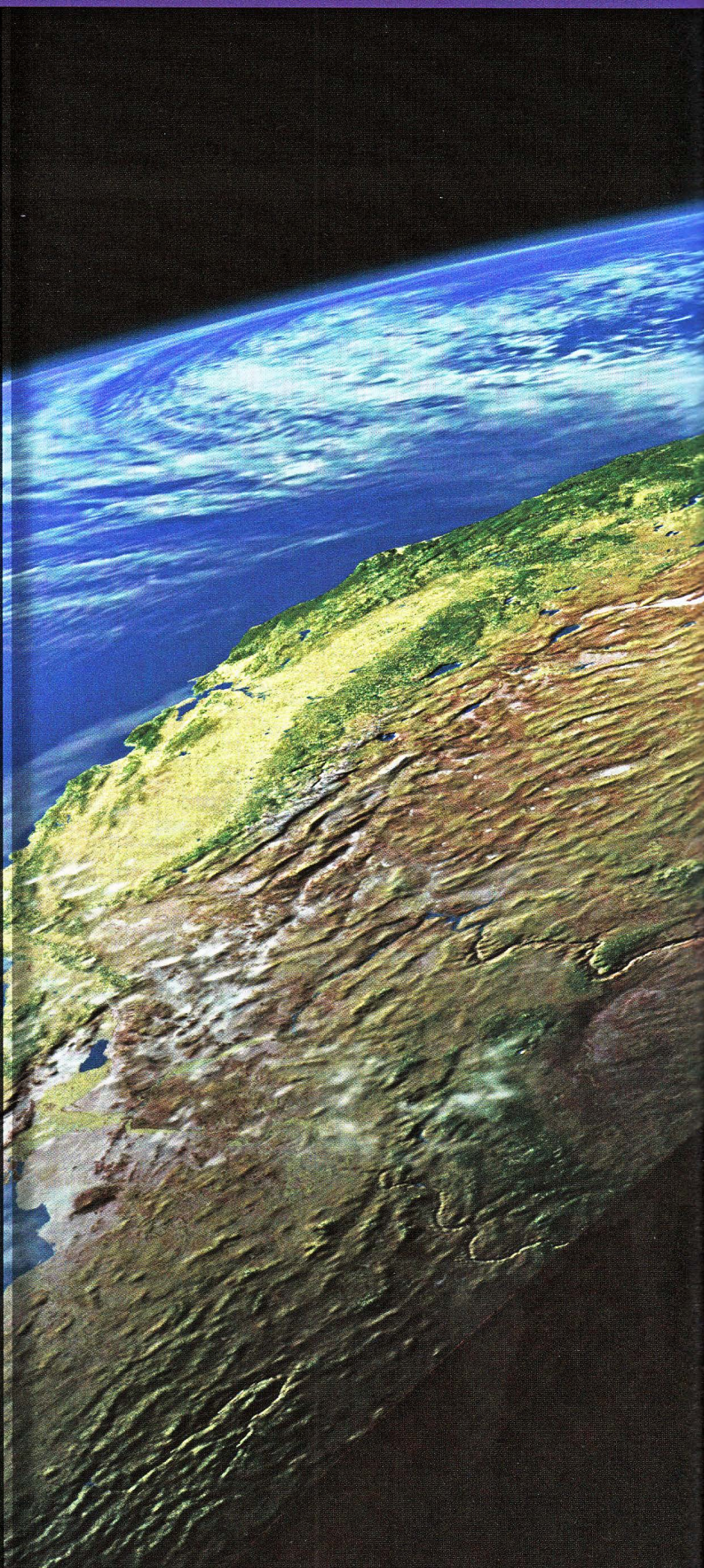
1950s: Harvard graduate student Francis Boyd discovers a thick layer of heated and compacted ash at Yellowstone, and determines that it is the result of a geologically recent eruption.

1970s: Supervolcano expert Bob Smith of the University of Utah finds that land near the caldera has risen by some 30 inches (76 centimeters) in three decades, proving the supervolcano is alive.

1985: A number of small earthquakes strike the area, causing the land to sink. Over the next decade, it sinks eight inches (20 centimeters).

2004–2007: The ground above the caldera rises upward at rates as high as 2.8 inches (7 centimeters) a year—much faster than any uplift since observations began in the 1970s.

2007–2010: The ground rise slows to one centimeter or less a year, but the ground has risen about 10 inches (25 centimeters) in just a few years. “It’s an extraordinary uplift,” says Smith, “because it covers such a large area and the rates are so high.”





▲ Fire and debris rise from deep within the Earth under Yellowstone in this artist's view of a supervolcanic eruption.

How Violent Is a Super-Eruption?

After each super-eruption at Yellowstone, the whole planet felt the effects. Scientists theorize that gases rising high into the atmosphere mixed with water vapor to create a haze that reduced sunlight, causing a period of cooling across the globe. It is estimated that the combined debris¹ from the three eruptions was so vast it could have filled the Grand Canyon.

The most recent catastrophic eruption, about 640,000 years ago, poured out 240 cubic miles (1,000 cubic kilometers) of rock, lava, and ash. A column of ash rose some 100,000 feet (30 kilometers) into the atmosphere, and winds carried ash and dust across the western half of the United States and south to the Gulf of Mexico. Closer to the supervolcano, thick clouds of ash, rocks, and gas—superheated to 1,470 F° (800 C°)—rolled over the land. This volcano's lava and debris destroyed everything within its devastating range, filling entire valleys and forming layers hundreds of feet thick.

Will the Supervolcano Erupt Again?

Predicting when an eruption might occur is extremely difficult, in part because scientists still do not understand all the details of what is happening under the caldera's surface. Moreover, they have kept continuous records of Yellowstone's activity only since the 1970s—a tiny slice of geologic time—making it hard to draw conclusions. However, scientists theorize that Yellowstone's magma chamber expands periodically from a plume of hot rock moving up from deep inside the Earth. As the chamber expands, it pushes the land above it upward. According to this theory, when the plume of rock decreases, the magma cools and becomes solid, allowing the land above to fall back.

Scientists believe that Yellowstone has probably seen a continuous cycle of rising and falling land over the past 15,000 years. Geophysicist and supervolcano expert Bob Smith of the University of Utah believes the rise-and-fall cycle of Yellowstone's caldera will likely continue. "These calderas tend to go up and down, up and down," he says. "We call this a caldera at unrest. The net effect over many cycles is to finally get enough magma to erupt. And we don't know what those cycles are."

¹ **Debris** is pieces from something that has been destroyed, or pieces of trash or unwanted material that are spread around.

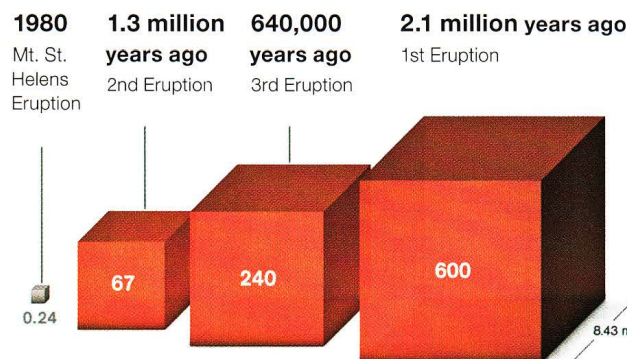
So, is the supervolcano going to explode again? Some kind of eruption is highly likely at some point. The chances of another catastrophic super-eruption are anyone's guess. It could happen in this century, or 100,000 years from now. No one knows for sure.

The Yellowstone Eruptions

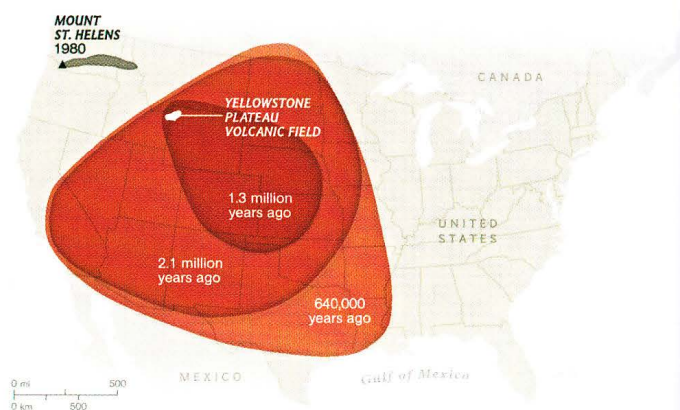
Three major blasts have shaken Yellowstone National Park during the past 2 million years. The smallest of these, 1.3 million years ago, produced 280 times more material than the 1980 eruption of Mount St. Helens. After the two biggest eruptions, winds carried material from Yellowstone across much of the United States.

Comparative Volume of Eruptions

in cubic miles



Ash Coverages



UNDERSTANDING THE READING

A | Identifying Main Ideas. Complete the main ideas of the paragraphs listed below.

1. Paragraph E: It's _____ to predict a supervolcano _____, but scientists are beginning to understand how a supervolcano changes over time.
2. Paragraph F: Scientists think that Yellowstone has experienced a cycle of _____ and _____ for 15,000 years.
3. Paragraph G: _____ knows when the supervolcano will erupt again, but it probably _____ erupt again sometime in the future.

B | Identifying Meaning from Context. Find and underline the following words in the reading passage on pages 80–84. Use context to help you complete the definitions. Check your answers in a dictionary.

1. Paragraph A: You use **exceptionally** to describe something that is true to a (*very large / very slight*) degree.
2. Paragraph C: **Haze** is a light mist caused by particles of water or dust (*on the ground / in the atmosphere*).
3. Paragraph D: **Catastrophic** means extremely (*destructive / impressive*).
4. Paragraph F: The **net effect** of something is the effect (*before / after*) all the details have been considered or included.

C | Identifying Key Details. Find details in the reading passage and the graphics to answer the following questions.

1. What is the difference between a volcano and a supervolcano?

2. According to scientists, how many times has the Yellowstone supervolcano erupted in the last 2.1 million years?

3. How and when was the Yellowstone caldera formed?

4. Why is it difficult for scientists to predict when the supervolcano will erupt again? Give two reasons.

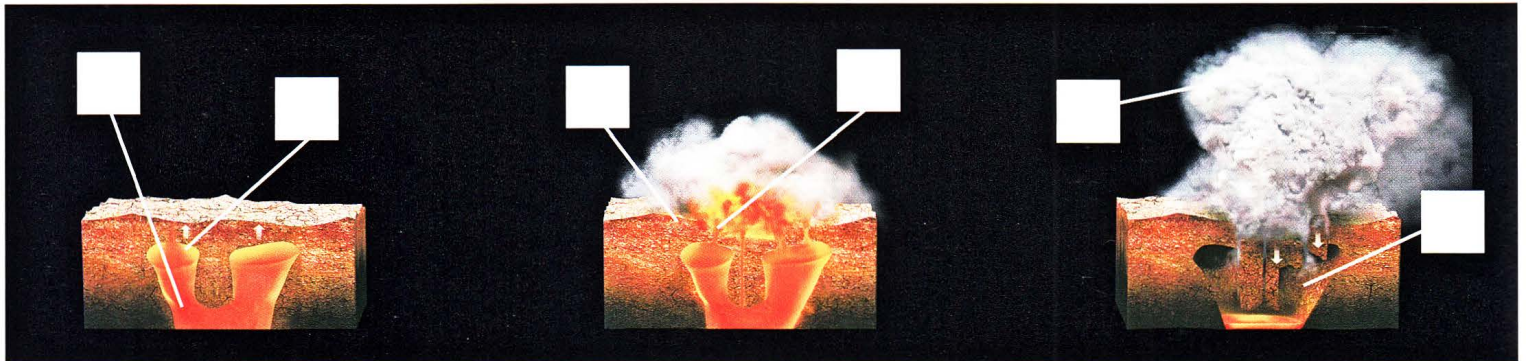
D | Understanding Infographics. Use the information on page 84 to answer the questions.

1. When did Yellowstone produce the greatest amount of material in an eruption?

2. When did ash from a Yellowstone eruption cover about half of the United States?

E | Labeling a Process Diagram. Label the illustrations (a–f) to show the sequence of events in a supervolcano eruption.

- a. After weeks or months, the chamber becomes empty.
- b. A plume of extreme heat rises from deep within the Earth.
- c. Columns of ash may rise 25 miles (40 kilometers) into the air.
- d. Pressure forces gases to explode upward through cracks in the dome.
- e. The chamber pushes the surface of the land to form a dome.
- f. The intense heat melts rock, creating a chamber just below the surface.



Before the Eruption

The Volcano Erupts

After the Eruption

F | Critical Thinking: Analyzing Evidence. Look at the time line on page 82 and answer the questions.

1. List two pieces of evidence that show there has been a large eruption at Yellowstone.


2. What evidence shows that the supervolcano is still alive?



G | Critical Thinking: Synthesizing. What do earthquakes and the Yellowstone supervolcano have in common? Discuss ideas in a small group.

GOAL: Writing Introductory Paragraphs

In this lesson, you are going to plan, write, revise, and edit paragraphs on the following topic: **Choose one type of natural disaster. Write about one way that individuals can prepare for it and one way that governments prepare for it.**

-  **A | Brainstorming.** Make a list of natural disasters. For each natural disaster, list the type of damage it can cause.

Natural Disaster	Damage It Can Cause
earthquakes	buildings fall

Free Writing. Think about the dangers caused by one of the natural disasters in your list. How can people prepare for this type of disaster? Write for five minutes.

- B |** Read the information in the box. Then complete the sentences (1–5) with parallel structures.

Language for Writing: Using parallel structures

When you join two ideas in one sentence, both ideas have to be in the same form. For example, the words and phrases before and after *and* must both be nouns, adjectives, or verbs (in the same tense). Also, the two parallel ideas should come immediately before and after *and*.

Parallel nouns:

Property gets damaged in earthquakes. / Earthquakes damage buildings.

Property and **buildings** get damaged in earthquakes.

Parallel verbs:

Learn about earthquake safety online. / Phone numbers for local shelters are online.

You can **learn** about earthquake safety and **find** phone numbers for local shelters online.

Parallel adjectives:

*The people were hungry. They also needed to sleep. → The people were **hungry** and **tired**.*

1. People can prepare for a hurricane by buying extra water. They also need extra food.

People can prepare for a hurricane by buying extra _____ and _____.

2. When it starts to rain, streets will be slippery. Slippery streets can be dangerous.

When it starts to rain, streets will be _____ and _____.

3. People need to be cautious. People aren't aware of dangers.

People need to be _____ and _____ of dangers.

4. Houses were crushed. The tornado carried cars away.

The tornado _____ houses and _____ cars away.

5. People are frightened of hurricanes. Hurricanes cause damage to property.

Hurricanes _____ people and _____ property.

Writing Skill: Writing an Introductory Paragraph

The first paragraph of an essay is the **introductory paragraph**. This paragraph contains the thesis statement and general information about the essay. It can also include an engaging opening to make the reader interested. For example, it can start with a surprising statement or an interesting question. See the first sentence on page 80 for an example.

In an introduction, you should generally avoid using *I*, unless it is a personal essay. For example, you should avoid saying, *I am going to write about . . .*



C | Critical Thinking: Analyzing. Read the introductory paragraphs below and discuss these questions with a partner.

1. Where is the thesis statement? Underline it.
2. According to the thesis statement, what is the essay going to be about?
3. Is there an engaging opening, such as an interesting statement or question?
4. Which introduction do you think is better? Why?

Paragraph A

Most people may not realize it, but your home can be a very dangerous place. Accidents at home are the leading cause of death in some countries. Children and the elderly are the most likely people to hurt themselves or die due to home accidents. Some of the most common accidents at home are falls, poisoning, fire, choking, and drowning. Fortunately, however, there are a few things you can do to make your house a safe place for you and your family.

Paragraph B

There are things you can do to make your house a safe place for you and your family. Accidents at home are a common and frequent cause of injury and death. Children and the elderly are the most likely people to hurt themselves or die due to home accidents. Some of the most common accidents at home are falls, poisoning, fire, choking, and drowning. In this essay, I'm going to provide some ways to protect yourself from home accidents.

WRITING TASK: Drafting

A | Planning. Follow the steps to make notes for your paragraphs.

Step 1 Write the type of natural disaster you are going to discuss in the outline below and complete the thesis statement.

Step 2 Think about an interesting or surprising statement or question to open your introductory paragraph. Write it in the outline.

Step 3 Decide the two best ways people can prepare for the type of disaster you've chosen. Write topic sentences for each of your body paragraphs.

Step 4 Now write two or three examples or details for each body paragraph, for example, why this kind of preparation is useful, how it can be done, what kind of damage or harm it might prevent.

B | Draft 1. Use your outline to write a first draft of your paragraph.

Introductory Paragraph

Natural Disaster: _____

Thesis statement: In order to be prepared for _____, people need to

disaster

_____ and governments need to _____

first way

second way

Opening statement or question:

Body Paragraph 1: Topic sentence: One thing people can do to prepare is _____

first way

Example/detail 1: _____

Example/detail 2: _____

Example/detail 3: _____

Body Paragraph 2: Topic sentence: One thing governments can do to prepare is _____

second way

Example/detail 1: _____

Example/detail 2: _____

Example/detail 3: _____



- C | Critical Thinking: Analyzing.** Work with a partner. Read the paragraphs about ways to prepare for an emergency while traveling. Then follow the steps to analyze the paragraphs.


When most people plan a vacation, they tend to spend a lot of time choosing a hotel, finding a good flight, and deciding what sites they want to see, but they may not plan for possible travel emergencies. A little bit of planning ahead of time, however, can save travelers a lot of problems later. It's particularly important to be prepared for medical emergencies and theft. In order to be prepared for an emergency, travelers should think about their medical needs, and also consider what they might need in case of the theft or loss of important items.

Thinking about their medical needs beforehand can save travelers a lot of time and trouble. They should pack enough medication to last for the whole trip so they don't have to refill prescriptions while they're traveling. They should also keep their prescription medications in the original bottles, so that if they do have to refill a prescription for some reason, they will know the name of the medication and the dosage. In addition, travelers should pack a first-aid kit containing bandages, pain relievers, antibiotic creams, and any other necessary items.

People should also consider what they might need in case of the theft or loss of items such as passports and credit cards. It's a good idea for travelers to know the phone numbers of their embassies or consulates in case their passports are stolen. Travelers should also leave copies of their passports with friends or family members at home, and they should also keep copies in different parts of their luggage. This way it will be easier to get replacement passports if necessary. Finally, people who are traveling should know the phone numbers of their credit card companies so they can cancel their cards immediately after they are lost or stolen.

- Step 1** Circle the opening statement or question.
- Step 2** Underline the thesis statement in the introductory paragraph.
- Step 3** Underline the topic sentences in the two body paragraphs.
- Step 4** Circle the key words in each topic sentence that match the key words in the thesis statement.
- Step 5** In the first body paragraph, check (✓) sentences that explain how or why travelers should think of medical needs.
- Step 6** In the second body paragraph, check (✓) sentences that explain how or why travelers should consider what they might need in case of loss or theft.

- D | Revising.** Follow steps 1–6 in exercise **C** to analyze your own paragraphs.

 **E | Peer Evaluation.** Exchange your first draft with a partner and follow the steps below.

Step 1 Read your partner's paragraphs and tell him or her one thing that you liked about them.

Step 2 Complete the outline below showing the ideas that your partner's paragraphs describe.

Introductory Paragraph

Natural Disaster: _____

Thesis statement: In order to be prepared for _____, people need to
_____ and governments need to _____.
first way **second way**

Opening statement or question:

Body Paragraph 1: Topic sentence: One thing people can do to prepare is _____

first way

Example/detail 1: _____

Example/detail 2: _____

Example/detail 3: _____

Body Paragraph 2: Topic sentence: One thing governments can do to prepare is _____

second way

Example/detail 1: _____

Example/detail 2: _____

Example/detail 3: _____

Step 3 Compare this outline with the one that your partner created in exercise **B** on page 89.

Step 4 The two outlines should be similar. If they aren't, discuss how they differ.

- F | Draft 2.** Write a second draft of your paragraphs. Use what you learned from the peer evaluation activity and your answers to exercise **D**. Make any other necessary changes.
- G | Editing Practice.** Read the information in the box. Then find and correct one mistake with parallel structures in each of the sentences (1–5).

In sentences with parallel structure, remember:

- both ideas have to be in the same form, so when combining sentences you may have to shift words around, change a verb tense, or change a verb to an adjective.
- the two parallel ideas should come immediately before and after *and*.

1. People can prepare for fires by creating an escape plan and discuss the plan with family members.
2. Keep important papers and putting medicine in one place.
3. If you will need to take pets with you, pet carriers are important to have and extra pet food.
4. Walk around your house and to identify things you will need to take.
5. Pack a bag with clothes for each family member and necessities.

- H | Editing Checklist.** Use the checklist to find errors in your second draft.

Editing Checklist

Yes No

1. Are all the words spelled correctly?
2. Is the first word of every sentence capitalized?
3. Does every sentence end with the correct punctuation?
4. Do your subjects and verbs agree?
5. Did you use parallel structure correctly?
6. Are verb tenses correct?

- I | Final Draft.** Now use your Editing Checklist to write a third draft of your paragraphs. Make any other necessary changes.