

DISCOVER
our **AMAZING**
WORLD
CLIL READERS

VOLCANOES

Virginia Evans
Jenny Dooley



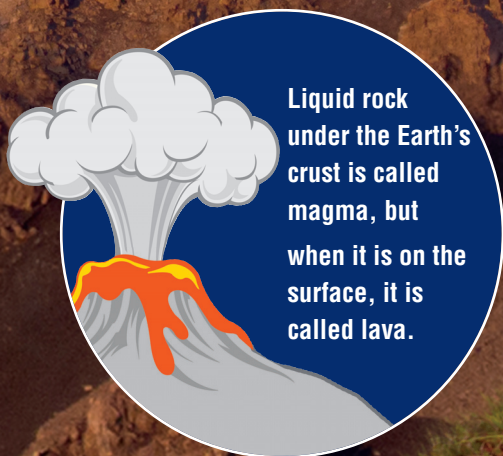
Express Publishing

A person in a red shirt and green pants stands on a rocky outcrop, taking a photograph of a volcanic eruption. A large plume of dark ash and smoke rises from a volcano in the background, with a bright red glow emanating from the base of the plume. The sky is a clear blue.

The Fire Erupts

A group of tourists climb up the steep slope of Pacaya, an active volcano in Guatemala. As they ascend, the trees start to thin and the soil gives way to slabs of thick, black rock. The sun begins to set as they reach the volcano's peak. Steam rises in a large column just ahead of them. A soft, red glow emanates from the bottoms of the bulging mounds of fluid rock that slowly flow past. The group snap photos with their cameras and chat excitedly about the amazing experience they are sharing.

Deep beneath the tourists' feet, miles underground, much hotter liquid rock churns. Under the Earth's crust, superheated rock is constantly flowing. This swirling mass is the source of the fire, smoke, and lava that pour out of Pacaya Volcano. But how does the fire within erupt from the Earth's surface? To understand this, we must go back to the beginning: to the birth of a volcano.



Liquid rock under the Earth's crust is called magma, but when it is on the surface, it is called lava.

Myth I



In ancient Roman mythology, Vulcan, the god of fire, was responsible for volcanic eruptions. He was associated with the ancient Greek god Hephaestus, and it is from Vulcan that we get the word volcano.

VULCAN the God of Fire

When Vulcan was born, the gods rejected him and threw him from the heavens down to the Earth. As a child, he stumbled across a fisherman's fire that had burned down to a pile of red-hot coals. He was so interested in the coals that he began playing with them, building fires and melting and shaping metal into different forms.

Vulcan's talent grew over time, and soon the other gods began to appreciate his skills. He began crafting weapons for his father, the god Jupiter, and his brother, the god Apollo. With thunderous blows, he hammered the glowing hot metal. Sparks flew from his anvil. Clouds of steam erupted as he plunged his handiwork into water to cool. Vulcan was a true artist. His fellow gods eagerly awaited his wares.

But the humans living near the island of Vulcanus, off the coast of Sicily, trembled with each blow of his hammer. The Earth shook and the skies filled with fire, ash, and steam from Vulcan's chimney. The people decided they had to do something to protect themselves. They created a festival to honor Vulcan. They hoped it would please him so that he would stop destroying their crops and homes with his fire.

The festival, which was called the Vulcanalia, took place each year on August 23, when the summer heat increased the risk of fire. The people began the festival by lighting candles to show respect for the god of fire. They also built large bonfires, and small fish were thrown in the fire as sacrifices. If Vulcan accepted the sacrifices of the people, he would keep his fire at a safe distance from their villages. But if the festival did not please him, the people would be punished by flows of ash, smoke, and lava from the top of Mount Vulcanus.



In Roman mythology, Vulcan crafted Jupiter's thunderbolts and Neptune's trident.

The Birth of a Volcano

Word Bank

(pp. 6-7)

rumble (v) = to make a low, rolling sound like thunder

tremble (v) = to shake

scorching (adj) = extremely hot

crust (n) = (of the Earth) the outer layer

eruption (n) = the sudden, violent explosion of built-up pressure in a volcano

occur (v) = to happen

blast (v) = to explode or burst

remains (pl n) = materials or substances that are leftover from an event

extend (v) = to reach

classify (v) = to assign sth to a category based on its characteristics or actions

active (adj) = (of a volcano) currently erupting or having erupted in recorded history

dormant (adj) = (of a volcano) having the potential to erupt, but not currently active

extinct (adj) = (of a volcano) no longer able to erupt

unrest (n) = movement or activity

earthquake (n) = a sudden shaking movement of the Earth's surface

geothermal activity (phr) = events that are related to the Earth's inner heat, e.g. hot springs, volcanoes, etc.

unceasingly (adv) = without stopping

spectacular (adj) = amazing; stunning

(pp. 8-9)

inactive (adj) = not active; dormant

millennium (n) = a thousand years

prior to (adj) = before

reawaken (v) = to become active again

violently (adv) = in an explosive or forceful way

ash (n) = the dust-like remains of sth that had been burned

volcanologist (n) = a scientist who studies volcanoes

plain (n) = a flat area of land with few trees

mantle (n) = the part of the Earth below the crust

molten (adj) = melted

magma chamber (phr) = a large pool of liquid rock under the Earth's crust

pressure (n) = a build up of energy or matter

vent (n) = an opening

shoot up (phr v) = to move upward quickly and suddenly

deposit (n) = a layer of material left behind after a natural process, e.g. sediment

build up (phr v) = to add to

tectonic plate (n) = one of the large pieces that make up the Earth's crust

float (v) = to be on top of a liquid without sinking

slide (v) = to move along a surface

subduction (n) = the movement of a plate of the Earth's crust sliding under another and melting

melt (v) = to be heated to become liquid

hot spot (phr) = a pocket of magma that breaks through the crust of the ocean floor to form volcanoes

emerge (v) = to come out from

lahar (n) = a mudslide that forms on a volcano


mudslide (n) = the event of wet soil, rocks, etc. sliding down a mountainside

debris (n) = pieces of sth that has broken, e.g. tree branches, rocks, etc.

Pre-Reading activities

1 a) Decide if the following sentences are *T* (true) or *F* (false).

- 1 Mauna Loa started to form at the bottom of the Pacific Ocean.
- 2 The entire island of Hawaii is made up of Mauna Loa.
- 3 Stromboli is an extinct volcano.
- 4 Mt. Pinatubo volcano erupted in 1991.
- 5 Scientists expect that Mt. Kenya will erupt in the near future.

b)  Listen, read, and check to see if your answers were right. Correct the false statements.

While-Reading activities

2 Read the text and choose the best answers from A, B, C, or D.

- From base to peak, what is the approximate height of Mauna Loa?

A 13,681 feet	C 18 miles
B 10,5 miles	D 300 feet
- Which of the following is NOT a word that scientists use to describe the state of a volcano?

A active	C dormant
B silent	D extinct
- Which of the following volcanoes is commonly referred to as the “Lighthouse of the Mediterranean”?

A Mauna Loa	C Mt. Pinatubo
B Stromboli	D Mt. Kenya
- Which of the following is NOT true of lahars?

A they can be deadly
B they are similar to mudslides
C they rarely occur during eruptions
D they can cause great destruction

3 **SUBJECT-SPECIFIC VOCABULARY:** Match the words to their definitions.

- | | |
|----------------------------|----------|
| 1 <input type="checkbox"/> | crust |
| 2 <input type="checkbox"/> | eruption |
| 3 <input type="checkbox"/> | active |
| 4 <input type="checkbox"/> | hot spot |
| 5 <input type="checkbox"/> | dormant |
| 6 <input type="checkbox"/> | extinct |

- | | |
|---|---|
| A | volcanic area over a pocket of super-hot magma |
| B | having the potential to erupt, but not currently active |
| C | a sudden, violent release of pressure |
| D | no longer able to erupt |
| E | the Earth's outer layer |
| F | erupting now or having erupted in recorded history |

4 Fill in: *float, emerge, reawaken, melt, shoot up*.

- Lava starts to out of the opening of a volcano.
- Large pieces of Earth's crust called tectonic plates on the Earth's mantle.
- A dormant volcano can violently after being inactive for a long time.
- Subduction occurs when tectonic plates overlap and one begins to as it sinks deeper into the mantle.
- Hot spot volcanoes from the ocean to form islands.

After-Reading activities

5 Complete the table using the words/phrases below.

- Mt. Kenya • Stromboli • can no longer erupt
- Mt. Pinatubo before 1991 • currently erupting
- remain inactive for long periods • Mauna Loa
- can erupt again

ACTIVE VOLCANOES	DORMANT VOLCANOES	EXTINCT VOLCANOES

6 **ICT** Collect more information about Stromboli volcano. Prepare a fact file that includes the following information: *location, size, frequency of eruptions, interesting facts*. Use the phrase “*Global Volcanism Program*” to help your search.

Myth II

Word Bank

(pp. 34-35)

traditional (adj) = passed down from generation to generation

mythology (n) = the collected stories that are part of a group's beliefs and explain how or why sth happened

goddess (n) = a female supernatural being

massive (adj) = very large

respect (n) = a feeling of admiration

passionate (adj) = very emotional

sibling (n) = a sister or brother

trouble (n) = a problem

violent (adj) = fierce; aggressive

argument (n) = a fight with words

terrible (adj) = very bad

exile (n) = the state of being forced to live away from others

set off (phr v) = to leave a place

powers (pl n) = supernatural abilities

battle (n) = a fight

wrath (n) = intense anger

overflow (v) = to become over-filled so that the substance inside falls over and out the top

crater (n) = a bowl-shaped pit in a surface

broad (adj) = wide

dome (n) = a rounded shape with a flat bottom

form (v) = to take shape

flee (v) = to run away

catch up with sb/sth (phr) = to chase after sb/sth until you are in the same location

leave your mark (idm) = to have an effect on sth

landscape (n) = natural surroundings

travel (v) = to move from one place to another

defeat (v) = to win against sb in a fight, competition, etc.

come back to life (phr) = to become alive again after dying

smoke (n) = a black or gray cloud rising from a fire

ash (n) = the powdery substance that is left after sth has burned


burst (v) = to explode

spread (v) = to move across and cover a surface

Pre-Reading activities

1 a) Choose the word that you think best completes each sentence.

- 1 Long ago, gods and goddesses lived on a(n) **volcano/island** in the South Pacific.
- 2 Pele had a(n) **argument/problem** with one of her siblings.
- 3 Her **father/sister** feared for Pele's life.
- 4 Namaka **exiled/followed** Pele from island to island.
- 5 Pele could not **defeat/mark** her sister in battle.

b)  Listen, read, and check to see if your answers were right.

While-Reading activities

2 Read the text and choose the correct options from A, B, C, or D.

- 1 Pele got in trouble more than her sisters and brothers because she was very
A angry. C passionate.
B violent. D powerful.
- 2 One of Pele's siblings was the goddess of
A fire. C powers.
B lava. D the sea.
- 3 When Pele understood that Namaka was more powerful than her, she
A left. C fought.
B caught up. D was angry.
- 4 The people of Hawaii still have respect for
A Pele. C Namaka.
B volcanoes. D all the gods and goddesses.

3 Decide if the following sentences are **T (true)**, **F (false)**, or **DS (doesn't say)**.

- 1 Hawaii is located in the South Pacific.
- 2 Pele is the only Hawaiian goddess.
- 3 Pele's father was worried that Namaka would kill her.
- 4 Namaka is the oldest of Pele's twelve siblings.
- 5 Namaka killed Pele, but she came back to life and made Kilauea her new home.

4 Fill in: *landscape, crater, smoke, dome, burst, overflow*.

- 1 When and ash spread across the land, the people know Pele is angry.
- 2 On each island she visited, Pele left her mark on the
- 3 A(n) formed as liquid rock built up over time.
- 4 Volcanoes near Kilauea because of Pele's anger.
- 5 Pele's wrath causes the lava to and spread across the land.
- 6 Pele made a new home for herself in Halemaumau

5 Replace the words/phrases in bold with their synonyms. Use: *goddesses, wrath, exile, argument, respect*.

- 1 Pele and Namaka are **supernatural beings**.
- 2 Pele's father sent her to live in **solitude** because he feared for her safety.
- 3 Pele and Namaka had had a terrible **fight**, so Namaka wanted to hurt Pele.
- 4 As they battled, Pele's **fury** caused lava to pour out of the ground.
- 5 The people of Hawaii still **honor** Pele.

6 a) Match the letters and numbers to make phrases.

- | | |
|----------------------------|----------|
| <input type="checkbox"/> 1 | to get |
| <input type="checkbox"/> 2 | to set |
| <input type="checkbox"/> 3 | to catch |
| <input type="checkbox"/> 4 | to leave |
| <input type="checkbox"/> 5 | to come |

- | | |
|----------|--------------|
| A | up with |
| B | back to life |
| C | in trouble |
| D | off |
| E | your mark |

b) Use the phrases in Ex. 6a to make sentences about the chapter.

After-Reading activities

7 a) Put the event below in the order that they happened.

- | | |
|-----------------------------------|--|
| <input type="checkbox"/> A | Namaka followed her to the Hawaiian Islands. |
| <input type="checkbox"/> B | Pele had a violent argument with the goddess of the sea. |
| <input type="checkbox"/> C | Namaka won the last battle and killed her sister. |
| <input type="checkbox"/> D | Pele's father sent her to live on her own. |
| <input type="checkbox"/> E | The two sisters battled again and again on different islands. |
| <input type="checkbox"/> F | Pele lived with her family and all the other gods and goddesses. |
| <input type="checkbox"/> G | She now lives in Kilauea's Halemaumau Crater. |
| <input type="checkbox"/> H | Pele came back to life. |

b) Use the events in Ex. 7a to write a summary of the chapter.

8 **ICT** Collect information about another story about Pele. Use the phrase "*Pele Myths and Legends*" to help you in your search. In your own words, tell the story to the class.

Review

Listening activities



1

Listen to the dialogue and choose the correct answers to the following questions.

- 1 What are the speakers mainly discussing?
 - A a recent volcanic eruption
 - B the threat of a volcanic eruption
 - C a destructive volcanic eruption
 - D a theory about volcanic eruptions
- 2 Which of the following statements is true about Mount St. Helens?
 - A It is in Yellowstone.
 - B It hasn't erupted since 1980.
 - C It is found in the United States.
 - D It is a fairly small volcano.
- 3 How does the woman explain how serious the eruption was?
 - A by describing its recent eruptions
 - B by giving examples of the damage it caused
 - C by listing the areas of the world with active volcanoes
 - D by telling the man where it is located
- 4 What is the man referring to by "that" in the sentence, "That makes sense."
 - A The Pacific Ring of Fire is more volcanically active than other areas.
 - B Mount St. Helens is more volcanically active than other volcanoes.
 - C The United States is more volcanically active than other countries.
 - D The eruption of Mount St. Helens was more devastating than any other eruption in U.S. history.



2



Listen to the lecture and choose the correct answers to the following questions.

- 1 How does the speaker organize her lecture?
 - A by defending a particular point of view about a historical period
 - B by explaining the conditions during a historical period
 - C by comparing the Dark Ages to another period in time
 - D by examining the multiple causes of the Dark Ages
- 2 Which of the following statements would the woman most likely agree with?
 - A Weather and climate can change human history.
 - B Volcanoes are more destructive than we think.
 - C People in the Dark Ages did not understand the weather.
 - D The Dark Ages were not as bad as many people think.
- 3 Which of the following statements best summarizes the lecture?
 - A The Dark Ages were the most significant historical period in European history.
 - B The Dark Ages may have started with a volcanic eruption.
 - C The eruption of Krakatau caused the Dark Ages.
 - D Ice ages are usually caused by volcanic eruptions.
- 4 Which of the following statements would the woman likely NOT agree with?
 - A The ice age during the Dark Ages was part of Earth's natural cycle.
 - B Volcanic eruptions can have long-lasting consequences.
 - C Many factors contributed to the Dark Ages.
 - D Crops did not grow well during the Dark Ages.

Amazing Facts

Did you know?



Some scientists believe volcanoes were responsible for the 10) of the dinosaurs!

The 9) of an erupting volcano can be loud enough to break glass, or even burst a person's eardrum!

There aren't any volcanoes in 1) because the country rests on a single tectonic plate. Therefore, there aren't any gaps for magma to break through to the surface.

Most of the Earth's surface was formed by 2)

Most of Earth's volcanoes are located on the 3) rather than on land.

About 75% of the Earth's volcanoes are located in the Pacific 4)

A(n) 5) can reach temperatures as hot as 1,832°F!

Composite volcanoes usually form in 6) rather than alone.



In 7) , long, thin strands of dried lava are known as Pele's hair, and small, black bits of dried lava are called Pele's tears.

8) is a type of rock produced by volcanoes. It is the only type of rock that can float in water!

1

a) Fill in the gaps. Use: *pumice, volcanic activity, chains, extinction, Hawaii, Australia, Ring of Fire, pyroclastic flow, ocean floor, boom.*

b)  Listen and check.

2

ICT Collect more information about volcanoes. Make a Yes/No quiz for your classmates.

VOLCANOES

Deep below our feet, a mass of red-hot liquid rock is constantly flowing and churning. Sometimes, this rock erupts through openings in the surface of the Earth. These amazing displays of nature's power are called volcanoes.

Learn about different types of volcanoes, the long- and short-term effects of eruptions, ancient myths, and more! Vibrant pictures and amazing facts will ignite your sense of adventure as you enter the explosive world of Volcanoes.

DIGI MATERIAL

cross-platform application

(iOS, Android, Windows, MacOSX)



Express Publishing

ISBN 978-1-4715-3384-6



9 781471 533846