

Oh No! Volcano

Why do volcanic eruptions create such havoc?

Hawaii resident Eleanor Shannon used to grow crops of **protea**. The big, spiky flowers that bloom in brilliant shades of red and orange are popular among U.S. florists.

Then the vog hit and killed the flowers. Vog is volcanic smog, a white, fog-like haze with the odor of a just-struck match. It forms when sulfur dioxide (SO₂) gas belched by a volcano mixes with water vapor and oxygen in the presence of sunlight.

In March 2008, a new vent opened on Kilauea, a volcano in Hawaii. Vog levels took off after that. The toxic haze is hazardous not just to flowers but also to food crops and human health. Vog has been linked to headaches, coughs, sore throats, and irritated eyes.

Ash Clouds

Vog is just one type of volcanic threat. In the spring of 2010, a volcano in Iceland blew its top. Its name is Eyjafjallajökull (ay-yah-FYAH-plah-yer-kuh-duhl).

Iceland is located in the North Atlantic Ocean. Winds blew enormous clouds of ash across Europe. Ash is tiny pieces of rock and glass.

So much ash filled the atmosphere that it became unsafe for airplanes to fly. Ash can damage an airplane's engines. Thousands of flights were canceled.

The ash disrupted flight schedules for several weeks. Experts cannot predict when the volcano will spew ash again.

Hot Rock

Another danger of volcanoes is **lava**-hot, liquid rock. Sometimes it roars down a volcano. Other times it creeps. In either case, it torches everything in its path.

One of history's most famous eruptions destroyed whole cities. Nearly 2,000 years ago, Vesuvius in Italy erupted, and its lava swept across the city of Herculaneum. Many citizens were caught off guard by that eruption. They had no time to escape.

In the neighboring city of Pompeii, people were covered in hot ash from the volcano. When the ash cooled and hardened, their charred bodies turned to dust. That left empty spaces in the rock.

Scientists have filled many of those spaces with plaster to create casts of the long-gone people. The casts reveal how people tried to protect themselves against the volcano's terrible power.

Scientists cannot accurately predict when a volcano might blow. How might people who live near a volcano prepare for an eruption?



Danita Delimont/Getty Images

Volcanic fog, or vog, killed protea flowers like these in Hawaii.



AP Images

Red-hot lava poured down the side of the Kilauea volcano in Hawaii in March 2008.



Science Faction/Super Stock

Eyjafjallajökull, a volcano on Iceland, spewed ash into the atmosphere in April 2010.



Kaz Mori/Getty Images

These statues were made by pouring plaster into human-shaped empty spaces in the hardened lava in Pompeii, Italy.

Name: _____ Date: _____

1. According to the passage, lava can move

- A. only slowly
- B. in a shower
- C. only quickly
- D. quickly or slowly

2. Which of the following effects of vog on humans is NOT mentioned in the passage?

- A. irritated eyes
- B. throwing up
- C. coughing
- D. sore throats

3. It can be inferred from the passage that if there were a lot of vog, it would be difficult for people

- A. to see
- B. to stay inside
- C. to smell it
- D. to sleep

4. Read this sentence from the passage:

"The toxic haze is hazardous not just to flowers but also to food crops and human health."

As used in the passage, **toxic** means

- A. dangerous
- B. foggy and smoky
- C. smelly
- D. filling the air

5. This passage is mostly about

- A. how to predict when a volcano will erupt
- B. what to do if your flight is canceled
- C. the dangerous effects of volcanic eruptions
- D. the Icelandic volcano eruption in 2010

6. Summarize the three dangers of volcanic eruptions that can cause damage. Be sure to use evidence from the text to support your answer.

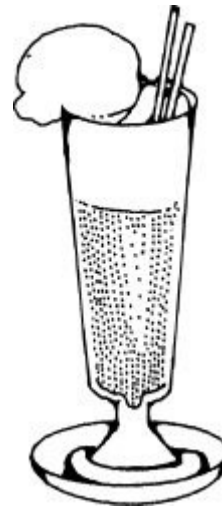
7. Why were citizens in the city of Herculaneum unprepared for the eruption of Vesuvius? Be sure to clearly state your reasoning and provide evidence from the text to support your answer.

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Clouds of ash filled the air when a volcano in Iceland erupted, _____ thousands of flights were canceled.

- A. so
- B. because
- C. but
- D. after

9. Which item would you most likely avoid because it could be toxic?



10. Why is it important for parents to keep toxic items out of the reach of children?
