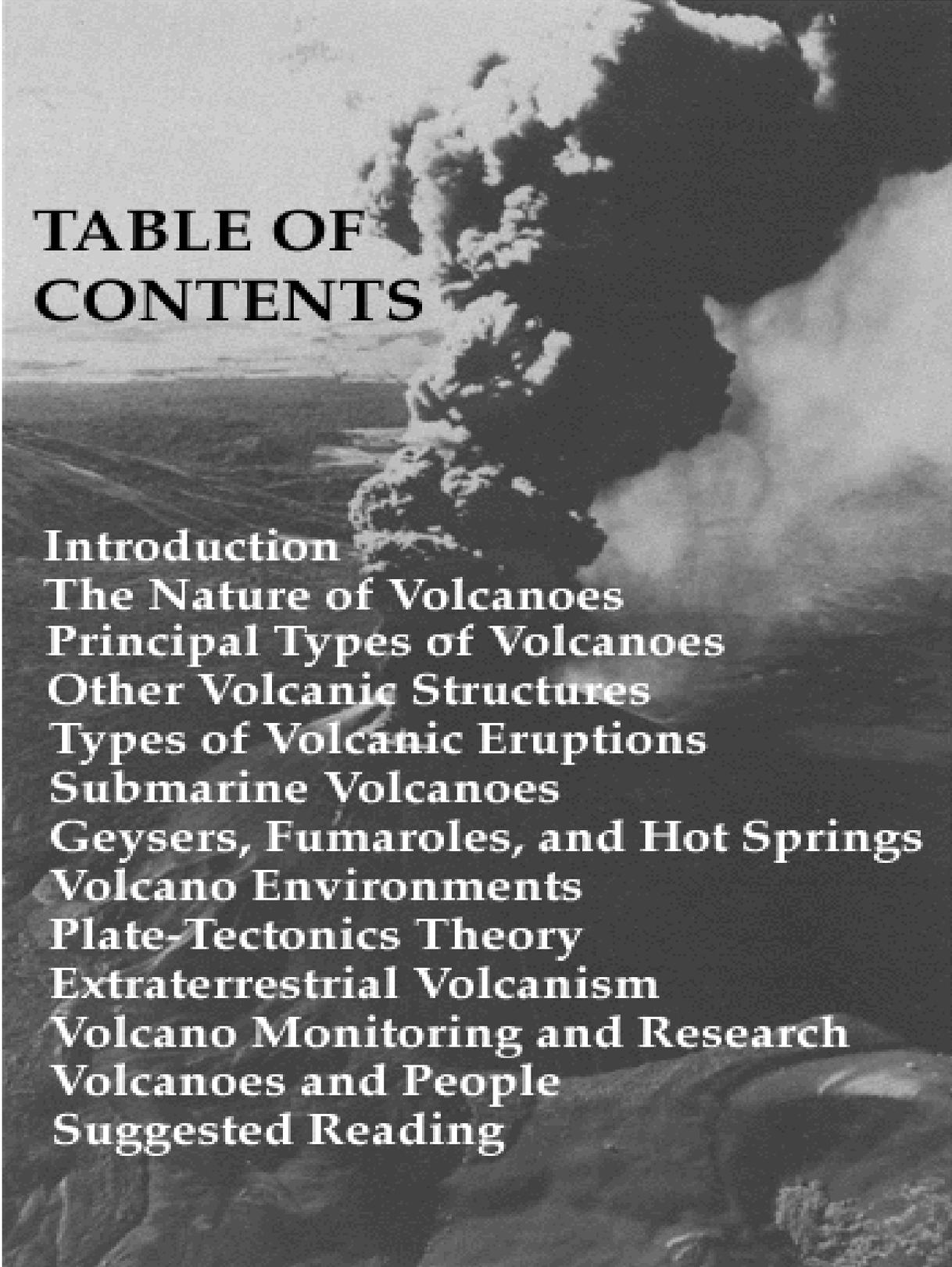


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**USGS: ONLINE VOLCANO ACTIVITY**  
<http://pubs.usgs.gov/gip/volc/cover2.html>



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## USGS Online Volcano Activity

**Directions:** Go to the following website: <http://pubs.usgs.gov/gip/volc/cover2.html> and start at the introduction.

Answer the following questions by using the website only... The questions are in chronological order and MUST match the website for the correct answers.

### Questions:

1. What percentage of the earth is of volcanic origin?
  - A). 90%
  - B). 80%
  - C). 70%
  - D). 50%
  
2. What geologic structures have formed due to volcanic activity?
  - A). Lakes, rivers, and oceans
  - B). Mountains, plateaus, and plains.
  - C). Valleys, plains, and lowlands
  
3. What is the irony in living near volcanoes (why do people live there?)
  - A). Beautiful site and fresh mountain water
  - B). The volcanic soils, and inviting terrains
  - C). Tourism, and mining profits
  
4. Who is Vulcan?
  - A). The blacksmith of the roman gods
  - B). The God of Mars
  - C). Pele the goddess of anger
  
5. Where does Vulcan supposedly live?
  - A). The island of Vulcano
  - B). The island of Sicily
  - C). The island of Polynesia
  
6. How are volcanic mountains made?
  - A). By folding and crumpling
  - B). By the accumulation of their own eruptive products
  - C). By uplift and erosion
  
7. How far can the finest ash be thrown?
  - A). It can be thrown high into the atmosphere then travel several miles only
  - B). It can be thrown high into the atmosphere then travel around the world once before it settles
  - C). It can be thrown high into the atmosphere then travel around the world several times before it settles

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8. What is magma made of (list all 10 elements)?
- A). O, SI, AL, FE, MG, CAL, N, K, Sn, and MN
  - B). O, Si, Al, Fe, Mg, Ca, Na, K, Ti, and Mn.
  - C). O, Si, Al, Cu, Mg, Ca, Sn, P, Au, and Mg
9. When magma cools what type of rock does it make?
- A). Igneous rock
  - B). Metamorphic rock
  - C). Sedimentary rock
10. What creates volcanic rocks with large crystals in it?
- A). When magma reaches the surface, and cools rapidly.
  - B). When lava doesn't reach the surface, and cools much slower underground.
  - C). When magma doesn't reach the surface, and cools much slower underground.
11. If the lava is a thin fluid (not viscous), the gases may escape how?
- A). They rise to the surface to erupt, the confining pressures are reduced and the dissolved gases are liberated
  - B). They rise to the surface, the gases will not move freely and will build up tremendous pressure, and ultimately escape with explosive violence.
  - C). They rise to the surface to erupt, the confining pressures are contained and the dissolved gases explosive violence.
12. How are cinders made?
- A). Made from particles and blobs of magma ejected from a multiple vents.
  - B). Made from particles and blobs of congealed lava ejected from a single vent.
  - C). Made from many gas bubbles and blobs of magma ejected from a single vent.
13. What are cinder cone volcanoes made of?
- A). Rock fragments, that solidify and fall as cinders around a vent, and form a circular or oval cone
  - B). Rock fragments, that solidify and fall as pumice around a vent
  - C). Lava, that solidify and fall as bombs around a vent, and form an oval cone
14. How high in elevation did Paricutin get in feet in 1943?
- A). 1000
  - B). 1200
  - C). 1500
  - D). 100 square miles
15. How are composite volcanoes made?
- A). Rock fragments, that solidify and fall as cinders around a vent, and form a circular or oval cone
  - B). Formed by a collapse of the volcano
  - C). Made of alternating layers of lava flows, volcanic ash, cinders, blocks, and bombs

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**16. How high in elevation do they get?**

- A). As high as 100 square miles
- B). As high as 5000 ft.
- C). As high as 8000 ft.

**17. How was "Crater Lake" formed?**

- A). A series of large explosions occurred and blew the top of the volcano off.
- B). A large explosion occurred and the top collapsed inward.
- C). Impact from space

**18. Is "Crater Lake" actually a crater?**

- A). YES
- B). NO.

**19. From the previous question: If not, what is it? If yes, what caused it?**

- A). YES: Because It was made from a rock from space impacting the ground.
- B). YES: Because this kind of depression is called a caldera like the rock that killed the dinosaurs.
- C). NO: Because this kind of depression is called a caldera, not a crater.
- D). NO: Because this kind of mountain is called a caldron, not a crater.

**20. How are shield volcanoes made?**

- A). Flow after flow pours out in all directions from a central summit vent, or group of vents, building a broad, gently sloping cone of flat, domical shape, with a profile much like that of a warrior's shield.
- B). Rock fragments, that solidify and fall as cinders around a vent, and form a circular or oval cone
- C). Made of alternating layers of lava flows, volcanic ash, cinders, blocks, and bombs

**21. How high in elevation do shield volcanoes get?**

- A). From 1000-1500 feet
- B). From 1500-2000 feet
- C). From 2000-8000 feet

**22. How are domes made?**

- A). Flow after flow pours out in all directions from a central summit vent, or group of vents, building a broad, gently sloping cone of flat, domical shape, with a profile much like that of a warrior's shield.
- B). Made of alternating layers of lava flows, volcanic ash, cinders, blocks, and bombs
- C). By relatively small, bulbous masses of lava too viscous to flow any great distance

**23. The fossil remains of the innards of a volcano (the so-called "volcanic plumbing system") are referred to as volcanic what?**

- A). Diatremes or tuff-breccia
- B). Plugs or necks
- C). Maars

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**24. Ship Rock near San Juan County in New Mexico is a good example of?**

- A). A diatreme
- B). Volcano
- C). Alien

**25. What are "maars"?**

- A). Shallow, flat-floored craters that scientists interpret have formed above diatremes as a result of a violent expansion of magmatic gas or steam
- B). Deep, rounded-floored craters that scientists interpret have formed below diatremes as a result of a violent expansion of magmatic gas or steam
- C). I have no idea, because I cannot find the answer

**26. How do maars form?**

- A). Loose pieces of basaltic lava and wallrocks (sandstone, shale, limestone) of the underlying diatreme, as well as random chunks of ancient crystalline rocks blast upward from great depths.
- B). Most are commonly filled with water to form natural lakes.
- C). Once again, I have no idea, because I cannot find the answer

**27. Are all craters made from volcanoes?**

- A). YES
- B). NO.

**28. From the previous question: If YES name one example? If NO name one example?**

- A). Zuni Salt Lake in New Mexico
- B). Meteor Crater in Arizona
- C). Ship Rock in New Mexico

**29. What is a submarine volcano?**

- A). Volcanoes that are not common features on certain zones of the ocean floor
- B). Volcanoes that are common features on certain zones on the continental crust
- C). Volcanoes that are common features on certain zones of the ocean floor

**30. The famous " \_\_\_\_\_ " beaches of Hawaii were created virtually instantaneously by the violent interaction between hot lava and seawater.**

- A). Black sand.
- B). Green sand.
- C). White sand.

**31. What is the most popular Geyser?**

- A). Yellowstone National Park
- B). Black Growler
- C). Old Faithful

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**32. How do Geysers work?**

- A). The water is heated, becomes less dense, and rises back to the surface along fissures and cracks. Sometimes these features are called "dying volcanoes" because they seem to represent the last stage of volcanic activity as the magma, at depth, cools and hardens.
- B). Large amounts of hot water are presumed to fill underground cavities. The water, upon further heating, is violently ejected when a portion of it suddenly flashes into steam.
- C). The mixture of steam and other gases are fed by conduits that pass through the water table before reaching the surface of the ground.

**33. How often does it erupt?**

- A). Every hour on the hour
- B). About once every 65 minutes
- C). About once every 90 minutes

**34. What is the difference between a geyser and fumaroles?**

- A). Fumaroles, emit mixtures of steam and other gases, are fed by conduits that pass through the water table before reaching the surface of the ground. In contrast, geysers' water already hot, fills underground cavity's and then ejects violently upon further heating.
- B). Geysers, emit mixtures of steam and other gases, are fed by conduits that pass through the water table before reaching the surface of the ground. In contrast, Fumaroles' water already hot, fills underground cavity's and then ejects violently upon further heating

**35. How does hot springs work?**

- A). They emit mixtures of steam and other gases which are fed by conduits that pass through the water table before reaching the surface of the ground. The water which is already hot, fills underground cavity's and then ejects violently upon further heating
- B). Thermal areas where they intersect through the water table, then depends on the rate of the circulation. The temperature and rate of discharge depend on factors such as the rate at which water circulates through the system of underground channel ways, the amount of heat supplied at depth, and the extent of dilution of the heated water by cool ground water near the surface.

**36. Most active volcanoes are strung like beads along, or near, the margins of the continents, and more than half en circle the Pacific Ocean as a "\_\_\_\_\_".**

- A). Ring of Volcanic Activity
- B). Ring of Fire
- C). Ring of Destruction

**37. Is volcanic activity only found here on Earth?**

- A). YES
- B). NO
- C). Not sure because the website did not tell me

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**38. From the previous question If YES where; If not where?**

- A). **YES: anywhere plates collide**
- B). **NO: Moon, Mars, Venus, and other planetary bodies**
- C). **I did not answer the previous questions so I can not answer this question**

**39. Science of "volcanology" originated with what?**

- A). **When Thomas A. Jaggar, Head of the Geology Department of the Massachusetts Institute of Technology, founded the Hawaiian Volcano Observatory (HVO), located on the rim of Kilauea's caldera**
- B). **Vulcan's forge as he beat out thunderbolts for Jupiter, king of the gods, and weapons for Mars, the god of war**
- C). **The accurate descriptions of the eruption of Vesuvius in A.D. 79 contained in two letters from Pliny the Younger to the Roman historian Tacitus.**

**40. What does "volcano monitoring" actually involve?**

- A). **Basically, it is the keeping of a detailed "diary" of the changes--visible and invisible--in a volcano and its surroundings.**
- B). **Basically, note visible changes of importance from known volcanoes**
- C). **Basically, watching volcanoes erupt from a computer screen**