

# Directed Reading A 9.1

## Section: Volcanic Eruptions

1. Volcanic eruptions can be \_\_\_\_\_ times stronger than the explosion produced by the first atomic bomb.
2. What is *magma*?  
\_\_\_\_\_
3. Magma that flows onto the Earth's surface is called \_\_\_\_\_.
4. A vent or fissure in the Earth's surface through which magma and gases are expelled is a \_\_\_\_\_.

### NONEXPLOSIVE ERUPTIONS

- \_\_\_\_\_ 5. Which of the following can happen during nonexplosive eruptions?
  - a. Violent explosions can occur.
  - b. Tons of rock can be blasted into the air.
  - c. Huge amounts of lava can be released.
  - d. Fire can shoot into the air.
6. The most common type of volcanic eruption is \_\_\_\_\_.
7. Much of the sea floor is covered with \_\_\_\_\_ from \_\_\_\_\_ nonexplosive eruptions.

### EXPLOSIVE ERUPTIONS

- \_\_\_\_\_ 8. Which of the following would you expect to see during an explosive volcanic eruption?
  - a. calm lava flows
  - b. hot debris, ash, and gas shooting into the air
  - c. a rainbow
  - d. lava fountains
9. In a volcanic eruption, molten rock is blown into dust-sized particles called \_\_\_\_\_.
10. During an explosive eruption, where do larger pieces of debris fall?  
\_\_\_\_\_
11. How quickly can an explosive eruption demolish a mountainside?  
\_\_\_\_\_

**Directed Reading A *continued***

**WHAT IS INSIDE A VOLCANO?**

12. The underground body of molten rock that feeds a volcano is a(n)  
 a. vent.    c. lava chamber.  
 b. magma chamber.                            d. ash chamber.

13. An opening in the Earth's surface through which volcanic material passes is a(n)  
 a. vent.    c. lava chamber.  
 b. magma chamber.                                d. ash chamber.

14. What about magma affects how explosive an eruption will be?

\_\_\_\_\_

15. Why is magma with high water content more likely to cause an explosive eruption?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

16. The solid form of lava that is so frothy with gas when it reaches the surface is called \_\_\_\_\_.

17. What are two reasons that magma with a high silica content tend to cause explosive eruptions?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

18. Why is magma with less silica less likely to cause explosive eruptions?

\_\_\_\_\_  
 \_\_\_\_\_

**WHAT ERUPTS FROM A VOLCANO?**

19. Liquid magma that flows from a volcanic vent is called \_\_\_\_\_.

\_\_\_\_\_

20. Magma that is blasted into the air hardens and forms \_\_\_\_\_.

**Directed Reading A** *continued*

21. What type of material is produced by nonexplosive eruptions?

\_\_\_\_\_

22. What type of material is produced by explosive eruptions?

\_\_\_\_\_

23. What is the difference between the flow of lava with high viscosity and the flow of lava with low viscosity?

\_\_\_\_\_

\_\_\_\_\_

**Match the correct description with the correct term. Write the letter in the space provided.**

\_\_\_\_ 24. pours out quickly and forms a brittle, jagged crust

a. pahoehoe lava

b. aa lava

\_\_\_\_ 25. flows slowly, has a glassy surface and rounded wrinkles

c. pillow lava

d. blocky lava

\_\_\_\_ 26. forms underwater in rounded lumps

\_\_\_\_ 27. cool, stiff lava that forms jumbled heaps close to the erupting vents

**Match the correct description with the correct term. Write the letter in the space provided.**

\_\_\_\_ 28. large blobs of magma that harden in the air

a. volcanic blocks

\_\_\_\_ 29. solid rock erupted from a volcano

b. volcanic bombs

\_\_\_\_ 30. pebblelike bits of magma that harden before they hit the ground

c. lapilli

d. volcanic ash

\_\_\_\_ 31. gases in stiff magma expand rapidly, forming glasslike slivers

32. When large amounts of hot ash, dust and gases are ejected from a volcano, the result is a dangerous type of volcanic flow called a(n)

\_\_\_\_\_.

33. Pyroclastic materials can race downhill at speeds of more than

\_\_\_\_\_.

34. The temperature at the center of a pyroclastic flow can exceed

\_\_\_\_\_.

