Name _____ Class_____Date_____

Skills Worksheet

DR 9-3

Section: Causes of Volcanic Eruptions

1. What are two factors scientists monitor that could indicate a volcano might erupt?

_____

_____

THE FORMATION OF MAGMA

_____ 2. The rock of Earth's mantle
   a. flows very quickly.
   b. has a puttylike consistency.
   c. is cooler than Earth's crust.
   d. is solid and rock-hard.

_____ 3. Rock usually melts to form magma when
   a. temperature decreases or pressure on the rock increases.
   b. temperature increases or pressure on the rock decreases.
   c. temperature and pressure on the rock both decrease.
   d. temperature and pressure on the rock both increase.

4. Why is a decrease in pressure the most common cause of magma formation?

_____

_____

5. Why does magma often form at the boundary between separating tectonic plates?

_____

_____

6. How does magma behave like air bubbles in a jar of honey?

_____

_____

_____

7. Where do a large number of the world's active volcanoes lie?

_____

8. What is a tectonic plate boundary?

_____

9. How is magma formation and movement affected at tectonic plate boundaries?

_____

WHEN TECTONIC PLATES SEPARATE

_____ 10. Tectonic plates move away from each other at a
- a. rift zone.
- b. divergent boundary.
- c. convergent boundary.
- d. magma chamber.

_____ 11. An area of deep cracks that forms between two tectonic plates that are pulling away from each other is a
- a. divergent boundary.
- b. mantle rock.
- c. crater column.
- d. rift zone.

_____ 12. Lava from undersea rift zones produces volcanoes and mountain chains called
- a. the Ring of Fire.
- b. subduction zones.
- c. hot spots.
- d. mid-ocean ridges.

13. How does magma form at a divergent boundary?

_____

_____

14. How does new oceanic crust form at a divergent boundary?

_____

_____

WHEN TECTONIC PLATES COLLIDE

_____ 15. A convergent boundary is a place where
- a. tectonic plates move side by side.
- b. oceanic crust moves away from continental crust.
- c. continental crust is subducted under oceanic crust.
- d. tectonic plates collide with each other.

_____ 16. Subduction is the movement of one tectonic plate
- a. against another.
- b. over another.
- c. under another.
- d. away from another.

_____ 17. As descending oceanic crust scrapes past the continental crust
- a. its temperature and pressure increase.
- b. it forms a lava fountain.
- c. it forms a volcano.
- d. its temperature and pressure decrease.

18. What happens to mantle rock when descending oceanic crust scrapes past continental crust, causing the temperature and pressure to increase?

_____

_____

_____

_____

HOT SPOTS

_____ 19. The Hawaiian Islands are located
- a. along a tectonic plate boundary.
- b. far from any plate boundary.
- c. over a lava fountain.
- d. on lava plateaus.

20. What are hot spots?

_____

_____

21. What is a mantle plume?

_____

PREDICTING VOLCANIC ERUPTIONS

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

_____ 22. has not erupted in recorded history

_____ 23. has not erupted recently, but may erupt in the future

_____ 24. is erupting now

a. active volcano
b. dormant volcano
c. extinct volcano

25. What happens to the number and intensity of small earthquakes just before an eruption?

_____

_____

26. What may be indicated by changes in the ratio of sulfur dioxide to carbon dioxide in volcanic gases?

_____

_____

27. What may be indicated by a bulge in the side of a volcano?

_____

_____

28. What are two methods scientists use to detect changes in a volcano's slope that may signal an eruption?

_____

_____

29. How are satellite images used to predict volcanic eruptions?

_____

_____

_____

_____