

Earthquakes and Volcanoes Review

Completion

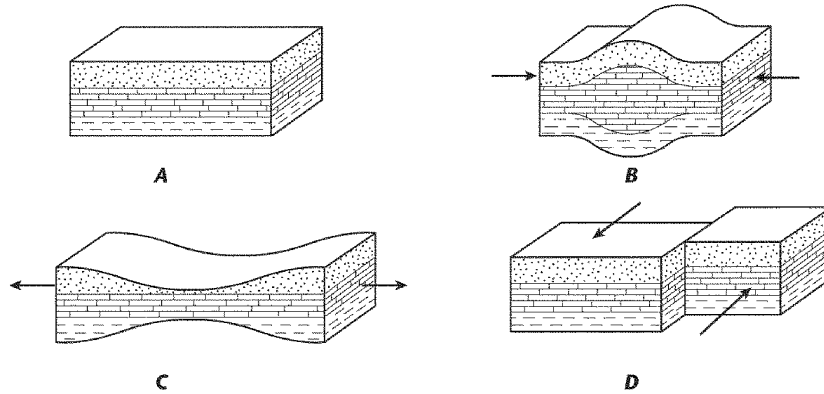
Complete each statement.

- 1 The point on Earth's surface directly above the focus of an earthquake is called the _____.
- 2 Magma travels through a long tube or _____ that connects the magma chamber with the surface.
- 3 Since liquid magma is less _____ than the surrounding material, it flows upward into any cracks in the rock above.
- 4 Groundwater heated by a nearby body of magma can spray from the ground under pressure, forming a(n) _____.
- 5 Hardened magma in a volcano's pipe that remains when softer rock around it has worn away is called a(n) _____.
- 6 Alternating layers of lava and ash form a type of volcanic landform called a(n) _____ volcano.
- 7 Instead of forming mountains, some eruptions of lava form high, level areas called _____.
- 8 According to Wegener's hypothesis, the continents were once joined as the supercontinent called _____.
- 9 The San Andreas fault in California is an example of a _____ fault.
- 10 Seismic waves are vibrations that travel through Earth carrying the _____ released during an earthquake.
- 11 The more _____ magma contains, the thicker it is and slower it flows.
- 12 A quiet eruption may produce slow-moving, cooler lava that hardens to form rough chunks. This type of lava is called _____.
- 13 An energy source called _____ energy is provided by water heated by magma.

14 _____ flows are a hazard associated with quiet eruptions.

Short Answer

Rock Stress



15 Describe the rock layers shown in Diagram A and any forces acting on the rock.

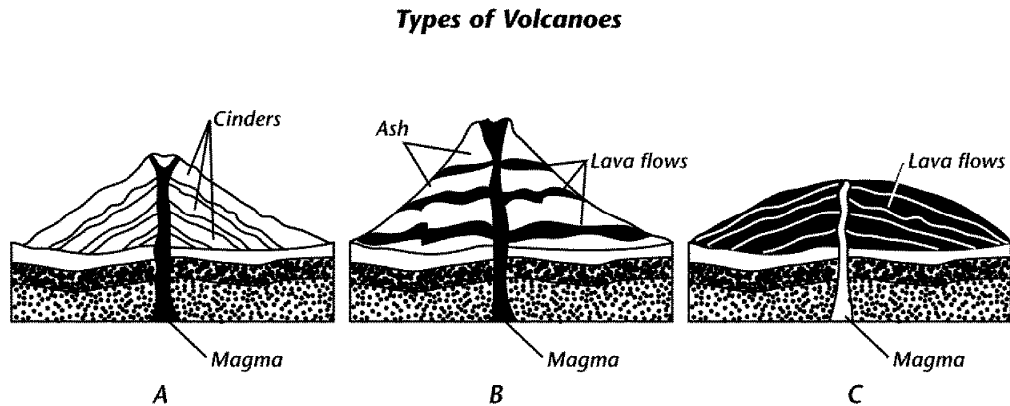
16 Compare Diagram B to Diagram A. How is B different?

17 What caused the rock layers to take on the shape shown in Diagram C?

18 Contrast the plate movements that cause the stresses in Diagrams B and C.

19 In Diagram B, which type of fault will form if the stress force continues? Explain.

20 Will a normal fault result from the stresses being applied to the rock unit in Diagram D? Explain.



21 Name the type of volcano illustrated in Diagram A and describe how it forms.

22 Name the type of volcano illustrated in Diagram B and describe how it forms.

23 Name the type of volcano illustrated in Diagram C and describe how it forms.

24 In the United States, where do volcanoes like the one shown in Diagram C occur?

25 What kind of eruption—quiet, explosive, or both at different times—would you expect from each volcano shown?

Name: _____

ID: A

- 26** If the magma chamber beneath volcano B empties and then collapses, what kind of feature will form? Explain.

Essay

- 27** Compare and contrast a normal fault and a reverse fault.

- 28** What is a plateau and how can one form?

- 29** Explain the difference between the focus and the epicenter of an earthquake.

- 30** What kind of volcanic activity might you expect to observe at or near a dormant volcano?

Earthquakes and Volcanoes Review Answer Section

COMPLETION

1 ANS: epicenter

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.3.1—Describe how the energy of an earthquake travels through Earth.

2 ANS: pipe

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.1—Describe what happens when a volcano erupts.

3 ANS: dense

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.1—Describe what happens when a volcano erupts.

4 ANS: geyser

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.3—Identify types of volcanic activity other than eruptions.

5 ANS: volcanic neck

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.1—Explain landforms formed from magma that hardens beneath the surface.

6 ANS: composite

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

7 ANS: lava plateaus

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

8 ANS: Pangaea

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.1.1—Explain the theory of plate tectonics.

9 ANS: strike-slip

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.2—Describe the types of faults, why faults form, and where they occur.

10 ANS: energy

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.3.1—Describe how the energy of an earthquake travels through Earth.

11 ANS: silica

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.2—Explain how the two types of volcanic eruptions differ depending on the characteristics of magma.

12 ANS: aa

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.2—Explain how the two types of volcanic eruptions differ depending on the characteristics of magma.

13 ANS: geothermal

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.3—Identify types of volcanic activity other than eruptions.

14 ANS: Lava

PTS: 1 NOT: Grade 6 Ch. 11.4.4—Identify some hazards of volcanoes.

SHORT ANSWER

15 ANS:

Diagram A shows a section of rock that contains three different layers. All layers are parallel and are equal in thickness. There are no forces being exerted on the rock layers.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.1—Describe how stress forces affect rock.

16 ANS:

Diagram B shows how compression affects rock layers, causing the layers to bulge in the center and occupy a smaller horizontal area.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.1—Describe how stress forces affect rock.

17 ANS:

tension

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.1—Describe how stress forces affect rock.

18 ANS:

The compression in Diagram B occurs when one plate pushes against another. The tension in Diagram C occurs when two plates move apart.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.1—Describe how stress forces affect rock.

19 ANS:

A reverse fault will form. Compression will squeeze the rock until a fault occurs in which the rock forming the hanging wall slides up and over the footwall.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.2—Describe types of faults, why faults form, and where they occur.

20 ANS:

No, because the stresses being applied will not push the rock unit up or down but sideways. A strike-slip fault rather than a normal fault will result.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.2—Describe types of faults, why faults form, and where they occur.

21 ANS:

Diagram A shows a cinder cone volcano. It forms when cinders erupt again and again, piling up around the vent to form a steep, cone-shaped hill.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

22 ANS:

Diagram B shows a composite volcano. It forms when lava flows alternate with explosive eruptions of ash, cinder, and bombs.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

23 ANS:

Diagram C shows a shield volcano. It forms when repeated lava flows build up a broad, gently sloping mountain.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

24 ANS:

Hawaiian Islands

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

25 ANS:

A: explosive; B: both at different times; C: quiet

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

26 ANS:

The top of the volcano will collapse, leaving a large hole, or caldera. A caldera forms as the roof of a volcano's empty magma chamber collapses.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.5.2—Identify landforms that lava and other volcanic materials create on Earth's surface.

ESSAY

27 ANS:

In both types of faults, movement of the crust occurs at an angle along a break called a fault. A normal fault results from tension, which causes the block of rock above the fault, called the hanging wall, to slip downward. A reverse fault results from compression, which causes the hanging wall to slide upward.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.2—Describe the types of faults, why faults form, and where they occur.

28 ANS:

A plateau is a large, flat area of land elevated high above the surrounding land. Some plateaus form when flat blocks of rock get pushed up by vertical faults.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.2.3—Describe how uplift and movement along faults changes Earth's surface.

29 ANS:

The focus is the point beneath Earth's surface where rock that is under stress breaks, triggering an earthquake. The epicenter is the point on the surface directly above the focus.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.3.1—Describe how the energy of an earthquake travels through Earth.

30 ANS:

A dormant volcano may not erupt for thousands of years. However, the volcano's body of magma may heat nearby groundwater, creating hot springs or geysers.

PTS: 1 STA: TEKS 6.6C

NOT: Grade 6 Ch. 11.4.3—Identify types of volcanic activity other than eruptions.