Name _____ Class_____ Date_____

Summary

SECTION: VOLCANIC ERUPTIONS

1. volcano: a vent or fissure in the Earth's surface through which magma and gases are expelled
2. magma chamber: the body of molten rock that feeds a volcano
3. vent: an opening at the surface of the Earth through which volcanic material passes

SECTION: EFFECTS OF VOLCANIC ERUPTIONS

1. crater: a funnel-shaped pit near the top of the central vent of a volcano
2. caldera: a large, semicircular depression that forms when the magma chamber below a volcano partially empties and causes the ground above to sink
3. lava plateau: a wide, flat landform that results from repeated nonexplosive eruptions of lava that spread over a large area

SECTION: CAUSES OF VOLCANIC ERUPTIONS

1. rift zone: an area of deep cracks that forms between two tectonic plates that are pulling away from each other
2. hot spot: a volcanically active area of Earth's surface far from a tectonic plate boundary

Section Review

SECTION: VOLCANIC ERUPTIONS

1. Sample answer: A volcano is a vent or fissure through which magma and gases are expelled. A magma chamber is the body of molten rock that feeds a volcano. A vent is an opening in the Earth’s surface through which lava or pyroclastic material passes.
2. D
3. Lava is classified by its surface texture. The way that lava flows may also be used to help classify it. Pyroclastic material is classified by size and how it forms. Four types of lava are aa, pahoehoe, blocky lava, and pillow lava. Aa flows quickly and has a slowly and has a wrinkled surface. Pillow lava erupts underwater and forms rounded lumps. Blocky lava is cool, stiff lava that does not travel far from the erupting vent.
4. an explosive eruption
5. The presence of water increases the chance of an explosive eruption because, as the magma body moves toward the surface, the water changes to a gas and expands rapidly. This rapid expansion causes an explosion. Silica-rich magma tends to trap volcanic gases and plug vents because of its high velocity. The resulting pressure increase can cause an explosive eruption.
6. A pyroclastic flow is a cloud of very hot ash, dust, and gases that flows from a volcano.
7. 64/100 = 32/50 = 16/25
8. Magma and soda have carbon dioxide dissolved in them. When the pressure on the magma and the soda is reduced, the carbon dioxide becomes a gas and expands rapidly.
9. Because aa and pillow lava have low viscosity, they must have a low silica content. Because blocky lava has a high viscosity, it must have a high silica content.
10. Students should conclude that Indonesian and Italian volcanoes are more likely to erupt explosively than Hawaiian volcanoes.

SECTION: EFFECTS OF VOLCANIC ERUPTIONS

1. crater
2. caldera
3. A
4. Cinder cone volcanoes are made of pyroclastic material, which is thick and piles up like sand around the volcano. Shield volcanoes are made from lava that is thin and runny and that spreads out over large areas.
5. A volcano’s crater tends to get larger over time because the vent may collapse after an eruption. In addition, if the lava hardens in the crater after an eruption, the next eruption may blast the hardened lava away, making the crater larger and deeper.