

CH. 7.1: VOLCANOES AND PLATE TECTONICS

Please answer these questions on separate paper. (2pts)

1. How do scientists estimate temperatures deep within the earth?
2. Explain how the temperature, pressure and melting points of rock change as the depth of the earth increases. (Use the diagram on p.117)
3. Where in the earth is the melting point less than the temperature of the earth? What is the physical state of the rock in this zone?
4. Describe how magma is formed.
5. How does the addition of water influence the formation of magma?
6. What is volcanism?
7. Why does magma slowly push upward into the crust?
8. Where does most magma form? Why?
9. What is lava?
10. What is a vent?
11. What is a volcano?
12. Describe how a volcanic mountain forms at a subduction zone.
13. What is the Pacific Ring. of Fire? How is it produced?
14. What kind of plate boundary produces an island arc? Give an example.
15. Which type of plate boundary produces the greatest amount of magma? Why do these volcanic eruptions go unnoticed? Where is an exception to this?
16. Describe how a Hot Spot is created and give an example.
17. What is the difference between an island arc and a hot spot?

CH. 7.2 VOLCANIC ERUPTIONS

Please answer these questions on separate paper (2 pts)

1. Compare and contrast the two types of lava in terms of color, mineral composition and where they are mostly found.
2. Compare and contrast *pahoehoe* lava and *aa* lava in terms of how they are formed and their textures.
3. How are lava tubes formed?
4. How is pillow lava formed?
5. What determines the force with which a particular volcano will erupt?
6. Why would lava that contains large amounts of trapped gases produce an explosive eruption? What gases are usually trapped in such lavas?
7. Which type of eruptions are usually quiet? Why?
8. Which type of eruptions are more explosive? Why?
9. What are pyroclastic materials?
10. Give the names and sizes for 5 types of pyroclastic materials.
11. List the three types of volcanoes, how they are formed and an example of each type.
12. Which type of volcano has very steep sides? Which type of volcano has gently sloping sides? Which type of volcano is also known as a stratovolcano?
13. What is the difference between a volcanic crater and a volcanic caldera? How are they formed?
14. Describe 3 possible warning signs of a volcanic eruption. Which sign is the most important? What causes this sign to occur?