

Volcanic assignment



**ASSIGN
BUSTER**

Melanie Brooke Yeakley 1. What is the myth from which volcanoes get their name? •It comes from the little island of Vulcano in the Mediterranean Sea off Sicily. Centuries ago, the people living in this area believed that Vulcano was the chimney of the forge of Vulcan--the blacksmith of the Roman gods. They thought that the hot lava fragments and clouds of dust erupting from Vulcano came from Vulcan's forge as he beat out thunderbolts for Jupiter, king of the gods, and weapons for Mars, the god of war. 2. What is the difference between magma and lava? Molten rock below the surface of the Earth that rises in volcanic vents is known as magma, but after it erupts from a volcano it is called lava 3. What are the main types of volcanoes? •cinder cones, composite volcanoes, shield volcanoes, and lava domes. 4. The Hawaiian Islands are what type of volcano? How tall is Mauna Loa? •Shield volcanoes; 13, 677 feet above sea level 5. What type of volcanoes are the most violent? •Plinian 6. Are all eruptions alike? Describe the type of eruption of Mt. St Helens? •No; •It involves the explosive ejection of relatively viscous lava, it can send ash and volcanic gas tens of miles into the air.

The resulting ash fallout can affect large areas hundreds of miles downwind. Fast-moving deadly pyroclastic flows 7. The Pacific ring of Fire is an example of volcanoes that form at _____. •Plate boundary The Hawaiian Islands are examples of _____. •Intra plate 8. What are some of the common methods used to study volcanic related phenomena? •Measurement of changes in the shape of the volcano •Precise determination of the location and magnitude of earthquakes by a well-

designed seismic network •Measurement of changes in volcanic-gas composition and in magnetic field 9.

Go to intro to granite and play with the clickable map. This photo shows an excellent example of a phaneritic (coarse grained) texture. These type of textures form from the slow cooling of plutonic or intrusive igneous rocks.

What is the pink mineral? •Igneous rock •potassium feldspar 10. Why is granite like ice cream? The analogy is humorous, but good. •Both ice cream and granite start out as liquids which when cooled became solid, and both will melt again if the temperature gets hot enough. •Both ice cream and granite become crystalline when they become solid.

Part 2 Most of these questions can answered using your text. Chapter 6) 11. What two criteria are used to identify igneous rocks? •Chemical content and grain size 12. What distinguishes mafic from felsic igneous rocks? (hint think about chemistry)

•Felsic rocks have more quartz in them. •Mafic rocks tend to contain magnesium-rich minerals like olivine and pyroxene. 13. What are three controls on the melting of rock material? •Mineral composition, temperature, pressure 14. What are the tectonic settings associated with the formation of basaltic composition magmas? •Basaltic composition magmas occur in oceanic hotspots where a mantle plume interacts with oceanic lithosphere. 5.

What is the tectonic setting for the formation of intermediate composition magmas? •Convergent boundaries 16. How would you distinguish between an intrusive and extrusive igneous rock? •Intrusive igneous rocks cooled below the surface of the planet, •Extrusive rocks are formed from magma at or above the surface of the planet, 17. What is magmatic differentiation?

•The process by which chemically different igneous rocks, such as basalt and

granite, can form from the same initial magma 18. Which volcanic hazard is the leading cause of death? (section 6. 8) •Asphyxiation as peopled breath hot gas and ash