

## **GEO 315 Review Questions**

1. Lithostatic stress in the continental crust changes at what rate?
2. What happens when rocks change shape without the loss of cohesion?
3. Name some places on Earth where you can study the different types of plate boundaries.
4. What is a sinistral plate boundary?
5. Explain the driving forces for plate tectonics.
6. Explain the major types of plate boundaries and how they relate to earthquakes, volcanic activity and tsunami.
7. What is stress and strain, and how do they relate to this course?
8. Why do we study magma?
9. What are joints?
10. What type of magma is associated with rifting?
11. What are the sources of thermal energy in the Earth?
12. What factors control the eruptive behavior of a volcano?
13. What are the theories for the formation of planet earth.
14. Explain the geothermal gradient. Plot a graph for average, high and low.
15. What is the absolute rate of plate motion?
16. What is the Moho?
17. What is the consistency of the Earth's crust?
18. What contribution did the following people make to our understanding of Earth: Harry Hess, Alfred Wegner, Charles Richter, Rodger Daltry, H. F. Reid.
19. What is a dextral transform
20. What is the link between earthquakes and fault activity?
21. Name the worst earthquake, volcanic eruption, landslide and tsunami in human history.

22. What is the San Andreas Fault?
23. What is a spreading ridge? Where can you go to observe one in action?
24. What causes earthquakes?
25. What is significant about the Cascade Mountain Range?
26. How was the Richter scale developed?
27. Name some significant disaster event in human history.
28. What factors influence the intensity of an earthquake or a volcanic eruption?
29. Explain the intensity scale for qualifying earthquakes.
30. Explain the magnitude scale for measuring earthquakes.
31. What happened in North Ridge, California in 1994
32. Explain the tectonics of Japan and Southern California.
33. How are the locations of earthquakes determined?
34. What is liquefaction?
35. What is an epicenter and a focus?
36. What is misleading about tsunami?
37. Translate the word "Tsunami" into English. French. German. Italian.
38. Explain the seismic gap.
39. Describe the disaster of Kobe, Japan, 1995.
40. What is seismic refraction?
41. What causes earthquakes?
42. What are the causes of tsunami?
43. How fast are tsunami?
44. Explain the disease of the lungs caused by inhalation of volcanic ash.

45. Explain S- and P-waves.
46. What is basalt and why is it significant?
47. How do landslides produce tsunami. What was the largest ever recorded?
48. Characterize a typical tsunami in the open ocean, and then explain what happens as it approaches land.
49. Explain the P-wave and S-wave shadow zones.
50. Explain wave base.
51. What was the root cause of the Indian Ocean tsunami?
52. What is a Japan-type boundary?
53. How are plate motions determined?
54. What is a hotspot?
55. What is a spreading center?
56. What is a rift?
57. Explain the characteristic magma associated with each plate tectonic boundary.
58. What is a vesicle?
59. How is intermediate composition magma produced?
60. Explain the mechanisms that produce magma.
61. Explain the crystallization series and how it might impact magma composition and eruptive behavior of a volcano.
62. Explain mafic, intermediate and felsic.
63. Johnny Cash performed a song entitled "Ring of Fire". How is this related to the subjects in this course?
64. What is a fragment of country rock in lava?
65. What gases erupt from volcanoes? Which one is most abundant?
66. What is a lava dome complex and why is it dangerous?

67. What is the most dangerous type of eruption? Describe it.
68. A Plinian eruption was first compared to a pine tree. Why and by who?
69. Explain the Plinian-type eruption. What historical event is represented by the name?
70. Explain the Pelean-type eruption. What historical event is represented by the name?
71. What is a rock fall?
72. How do sink holes form?
73. What are the factors that influence mass wasting? Explain each of them.
74. What are the energy sources for mass wasting?
75. Describe all the types of mechanical weathering.
76. How does talus form?
77. What produces carbonic acid and why is it an issue?
78. Describe the type of topography that forms in limestone by acid reaction.
79. What type of soils form in temperate and humid climates?
80. What is creep?