

GEOL 1113H
Study Guide: Exam 4

earthquake	focus	epicenter
aftershocks	seismic waves	seismology
body waves	surface waves	P waves
S waves	Mercalli scale	Richter scale
elastic rebound theory	rupture	seismometer/seismograph
paleoseismology	liquefaction	tsunami
Wadati-Benioff zone	seismic gaps	crust
mantle	outer core	inner core
asthenosphere	lithosphere	isostasy
P wave shadow zone	magnetism	gravity
S wave shadow zone	magnetic field	gravity anomalies
magnetic reversals	paleomagnetism	Moho
seismic discontinuity	hot spots	seamount
mid-ocean ridge	sea floor spreading	guyots
ocean trenches	pillow basalts	marine magnetic anomalies
passive margin	active margin	transform fault
fracture zone	submarine canyon	abyssal fan
continental slope	continental shelf	New Madrid Seismic Zone

Describe three methods for determining the velocity of plate motions.

Compare and contrast active and passive continental margins.

Explain how oceanic and continental crust differ in composition and thickness.

What are the differences between P and S waves? What are P and S wave shadow zones?

What is sea floor spreading and why are marine magnetic anomalies important in the process?

What are the fundamental differences between the modified Mercalli intensity scale and the Richter scale? Why were the earthquakes of 1811-1812 in the New Madrid Seismic Zone described only by the Mercalli intensity scale?

How are P and S wave arrival times used to determine the location of the epicenter of an earthquake?

Draw a simple diagram through the Earth and illustrate its major layers, i.e. inner core, outer core, mantle, crust. What are the compositions of each?

Describe the world distribution of earthquakes.

What is post-glacial rebound? Why does it occur?

Sketch and explain how gravity and magnetic anomalies can indicate the presence of buried bodies of iron ore.

What is the evidence of a mantle plume below Hawaii?

Describe sea floor spreading. Why are marine magnetic anomalies important for this process?