Review Questions Topic 5: Plate Tectonics

How did sailors traditionally measure the depth of the ocean beneath their ships?

Why was this method unreliable?

Compare the 1855 and 1911 bathymetric maps of the North Atlantic. What had changed?

What was the mountain chain in the middle of the Atlantic originally called?

What technology was first applied in WWI and later expanded upon in WWII to map the ocean floor?

What drove the mapping of the shallow ocean during these wars?

What major contribution did Marie Tharp and Bruce Heezen make to oceanography?

What role did H.C. Berann play in the construction of early bathymetric maps?

Why does most of the deep sea floor remain unmapped at high resolution?

What is pelagic sediment and how does it differ from terrestrial sediment that is found in the oceans?

Why was the lack of pelagic sediments on some parts of the seafloor such a surprise discovery?

How did initial experiments focused on submarine detection, lead to studies of heat flow coming out of the ocean floor?

How was the heat flow across the Atlantic ocean distributed with regards to the mountain chain in its middle?

What purpose did the global seismic network originally serve?

What major discovery was made by the global seismic network that had implications for interpretations of the seafloor, and ultimately "plate tectonics"?

Summarize the main ideas of tectonics as first described by Harry Hess's "essay in geopoetry".

What three hypotheses, derived from Harry Hess's essay on geopoetry, were tested using the *Glomar Challenger* from 1968-1983? Explain.

What do scientists mean by "magnetic reversal"?

Explain how the direction of the Earth's magnetic field is trapped in and recorded by the rocks that formed from the cooling of lava flows.

When was the last reversal of the Earth's magnetic field?

Is there a recognizable pattern or trend in the Earth's magnetic field reversals?

Explain how the "zebra pattern" of paleomagnetism of the seafloor supports plate tectonics?

Provide three reasons why continental drift is NOT the term we use to describe plate tectonics today