

**MSC 160 Oceanography
Chapter 2 Review**

Plate Tectonics Study Guide

1. What is the theory of continental drift?
2. Who proposed the theory? When?
3. What scientific data was used to support the theory of continental drift? Identify and explain at least four pieces of evidence.
4. What were the problems with the original theory of continental drift?
5. How does the presence of ocean ridges and trenches support the theory that the continents move?
6. How does seafloor spreading support the theory that continents move?
7. Which two scientists proposed seafloor spreading? Which scientist's proposal was confirmed by direct observations of the seafloor with submersibles?
8. How was seafloor spreading tested as a hypothesis?
9. What is Paleomagnetism? Define polar wandering and polar reversals. Why was the publication of the first paleomagnetic timescale (in 1963) so important to the seafloor spreading hypothesis?
10. How does the global distribution of earthquakes support the theory?
11. How does GPS help us study Continental Drift?
12. In your own words, state the theory of plate tectonics.
13. How does the development of the theory of plate tectonics illustrate the changing nature of scientific knowledge?
14. How was the scientific method used to establish the theory of plate tectonics?
15. What is a theory? Can theories change? What has to happen to a scientific explanation for it to become a theory?
16. What was Pangea? How does the theory of Plate Tectonics lead modern scientists to believe that the Earth will experience a second Pangea (in ~250ma)?
17. List the Earth's layers, their composition, and their approximate depth from the surface. How do we gain a better understanding of how Plate Tectonics works by studying the differing mechanical **strengths** of each layer?
18. List the 14 major tectonic plates that you learned in this Oceanography class.