



Section 12.1

Evidence for Continental Drift

Check Your Understanding

Checking Concepts

1. What is a supercontinent?
2. List three pieces of evidence that indicate that continental drift occurred in the distant past.
3. Briefly describe two pieces of evidence that suggest that Antarctica was once located farther from the South Pole than it is today.
4. What is sea floor spreading?
5. What is the relationship between continental drift and earthquakes?
6. Describe the theory of plate tectonics in your own words.

Understanding Key Ideas

7. Coal deposits form when plant matter sinks under water, begins to decompose, and is compressed. Explain how the presence of coal deposits in Siberia, northern Canada, and the Antarctic support the continental drift theory.
8. Despite the evidence Wegener found to support the continental drift theory, the scientific community of his day thought the idea of moving continents was ridiculous. What crucial question could Wegener *not* answer that might have changed other scientists' minds?

9. Why does the thickness of ocean floor sediments increase the farther they are from a ridge?
10. How does sea floor spreading explain the movement of tectonic plates?
11. Suppose a geologist is studying two distinct areas next to a spreading ridge. The magnetic direction of the minerals in the oldest area is opposite to the magnetic direction of minerals in the newest area.
- (a) Which area is closest to the centre of the ridge, the older or newer area? Explain.
- (b) What can the geologist conclude about Earth's magnetic field during the time when the two areas formed?
12. In a few sentences, explain how information from paleoglaciation and paleomagnetism support the idea that continental plates have moved over the past several million years.

Pause and Reflect

A marsupial is a type of mammal that carries its undeveloped young in an abdominal pouch. Scientists believe that many kinds of marsupials once lived throughout the world. Today, however, many marsupials are found only in Australia. How does the continental drift theory explain the modern distribution of marsupials? Use the diagram shown here to help you answer this question.

