

#15: Plate Tectonics II (448-454)

name: _____

1. What are the two types of technology described on page 448?
2. What kind of waves is being bounced off the seafloor in the diagram on the bottom of page 448?
3. Why would these waves to return to the ship very quickly in some areas?
4. What two topographic features were discovered on the ocean floor as a result of SONAR? (p. 449)
5. Look at the diagram on page 450. Find the mid-ocean ridge. Which is older? . . . rocks near the ridge, or rocks farther from the ridge?
6. According to the top paragraph, how old are the oldest rocks from the ocean floor?
7. How old are the oldest rocks from the continents?
8. What was the unexpected discovery related to sediment of the ocean floor?
9. In the past, the Earth's magnetic north and south poles have switched many times. What is the study of this magnetic field's record called?
10. Basalt is a rock formed as lava cools. If basalt (rock formed as lava cools) in one part of the ocean floor has "normal polarity", what does this mean?

11. What is it called when the basalt indicates that the magnetic north pole was on the opposite side of the world?

12. Look at the diagrams on page 452. What seafloor feature would be located at the center of each diagram?

13. How many times in the past 5 million years have the magnetic poles switched?

14. Look at the map on page 453. Find North America, South America, and Africa. The dark crooked line between the Americas and Africa is a mid-ocean ridge. Which areas have older seafloor rocks . . . the orange areas, or the blue areas?

15. What happens to the age of the rocks as you get farther from the mid-ocean ridge?

16. How old are the rocks on the seafloor just off the east coast of the USA?

17. How would you describe rocks near the mid-ocean ridge Fairly young, or fairly old?

18. Explain the theory called seafloor spreading.

19. The seafloor is spreading apart at mid-ocean ridges (sea floor spreading). So, why isn't there a gap in the ocean floor there? (What fills the gap?)