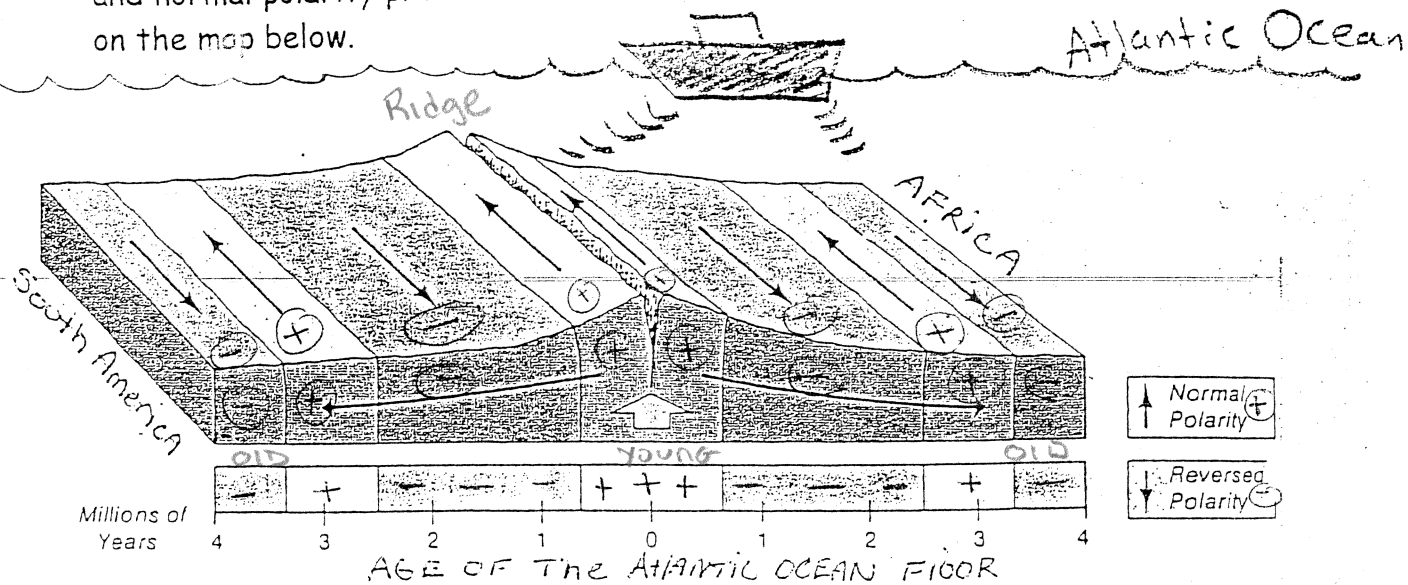


key

## Evidence of Plate Tectonics and Continental Drift

Ships with a device that measures the earth's magnetic fields were sailed across the Atlantic Ocean. What was found is a pattern of reversed and normal polarity preserved in the sea floor rocks. This pattern is shown on the map below.



### Questions

1) Where is the younger rock with respect to the ridge?

Directly above the Ridge

2) Where is the older rock with respect to the ridge?

Farthest from the Ridge, on the far left + far right.

3) What is happening to the Atlantic Ocean?

It is getting larger

4) What is the Mid-Atlantic ridge?

An area where magma rises up to the surface and forms new seafloor

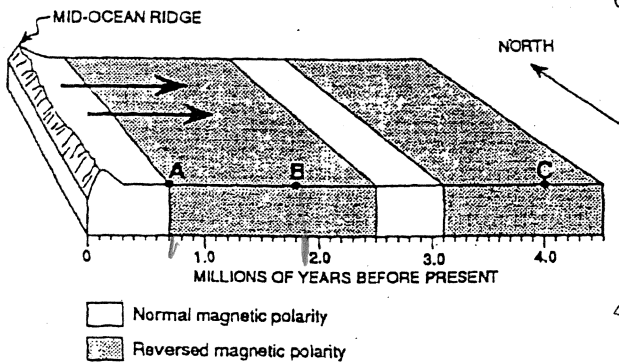
5) What type of rock do you think forms at the Mid-Atlantic ridge?

Basalt oceanic crust

Base your answers to questions 6 to 8 on the information and diagram below.

At intervals in the past, the Earth's magnetic field was reversed. The present North magnetic pole was once the South magnetic pole, and the present South magnetic pole was once the North magnetic pole. A record of these changes is preserved in the igneous rocks that formed at mid-ocean ridges and moved away from the ridges.

The diagram below represents the pattern of normal and reversed magnetic polarity in the igneous rocks composing the ocean crust on the east side of a mid-ocean ridge.



6. Approximately how many million years were required to form the material shown between A and B in the diagram?

- 1) 2.5                      3) 1.1  
2) 1.8                      4) 0.7

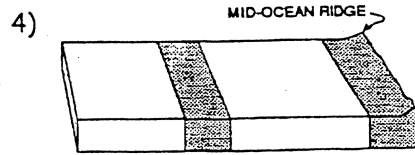
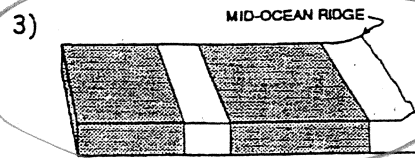
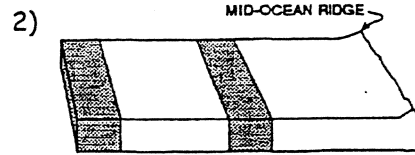
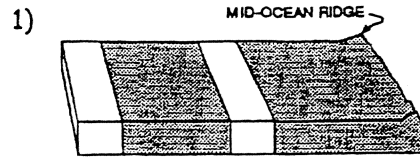
7. The igneous material along this mid-ocean ridge was found to be younger than the igneous material farther from the ridge. This fact supports the theory of

- 1) crustal subsidence    3) superposition  
2) seafloor spreading    4) dynamic equilibrium

9. Which statement best describes the continental and oceanic crusts?

- 1) The continental crust is thinner and more dense than the oceanic crust.  
2) The continental crust is thinner and less dense than the oceanic crust.  
3) The continental crust is thicker and less dense than the oceanic crust.  
4) The continental crust is thicker and more dense than the oceanic crust.

8. Which diagram below best shows the pattern of normal and reversed polarity on the west side of the mid-ocean ridge?



10. Which statement best supports the theory that all the continents were once a single landmass?

- 1) Rocks of the ocean ridges are older than those of the adjacent sea floor.  
2) Rock and fossil correlation can be made where the continents appear to fit together.  
3) Marine fossils can be found at high elevations above sea level on all continents.  
4) Great thicknesses of shallow-water sediments are found at interior locations on some continents.

11. The composition of the Earth's core is thought to be the same as the composition of

- 1) certain meteorites  
2) most granites  
3) most basalts  
4) volcanic ash