# DETERMINING THE RATE OF OCEAN FLOOR SPREADING

The diagram represents a section of ocean floor in the central North Atlantic. The numbers on the lines give the ages in millions of years for the parts of the ocean floor that are located along the lines.

The rate at which sections of the ocean floor are moving away from the Mid-Atlantic Ridge can be calculated by dividing the distance traveled by the time required to travel that distance. One millimeter on this map is equal to 65 kilometers (km).
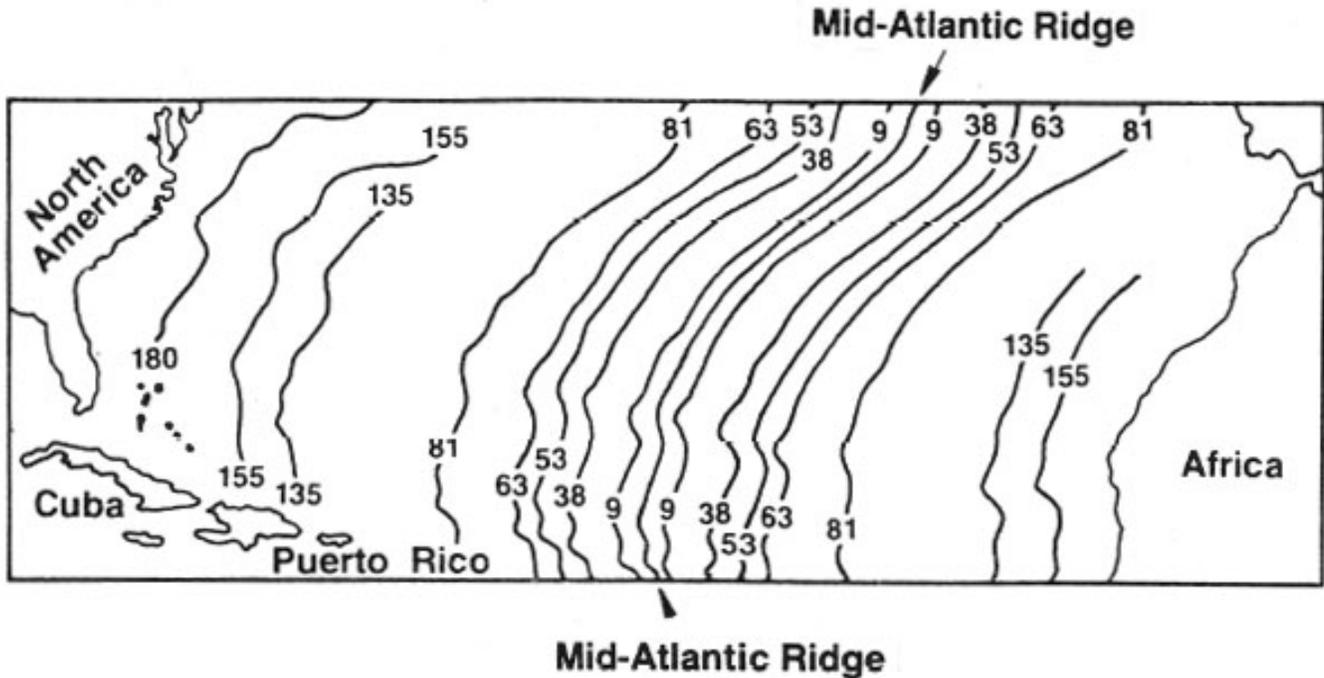
Procedure:

Determine the rate at which sections of the ocean floor are moving away from the Mid-Atlantic Ridge. Follow these steps and **show your work** in the table on the back of this page:

1. Select one of the numbered lines and measure the shortest distance between the line and the Mid-Atlantic Ridge. Record your answer in mm.

2. Convert the mm you measured into the actual distance in kilometers by multiplying by 65 (1 mm on this map = 65 km).

3. Convert the kilometers into centimeters by multiplying the value from #2 by 100,000 (there are 100,000 cm in one kilometer).

4. Calculate the rate of ocean floor spreading using the following equation:

> Rate of spreading (cm/year) = distance moved (cm)/time to move that distance (millions of years)

   You can figure out the time by finding the number associated with that line on the map.

5. Repeat this procedure for seven other lines to get an average figure. You can use lines on either side of the Mid-Atlantic Ridge.
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6. Calculate the average rate of ocean floor spreading using the data you collected.

Data:

Age of the Line Selected in millions of years	Distance on the map (mm)	Actual Distance in km	Actual Distance in cm	Rate of ocean floor spreading
			Average Rate of Ocean Floor Spreading:	