

Name _____ Date _____ Per _____

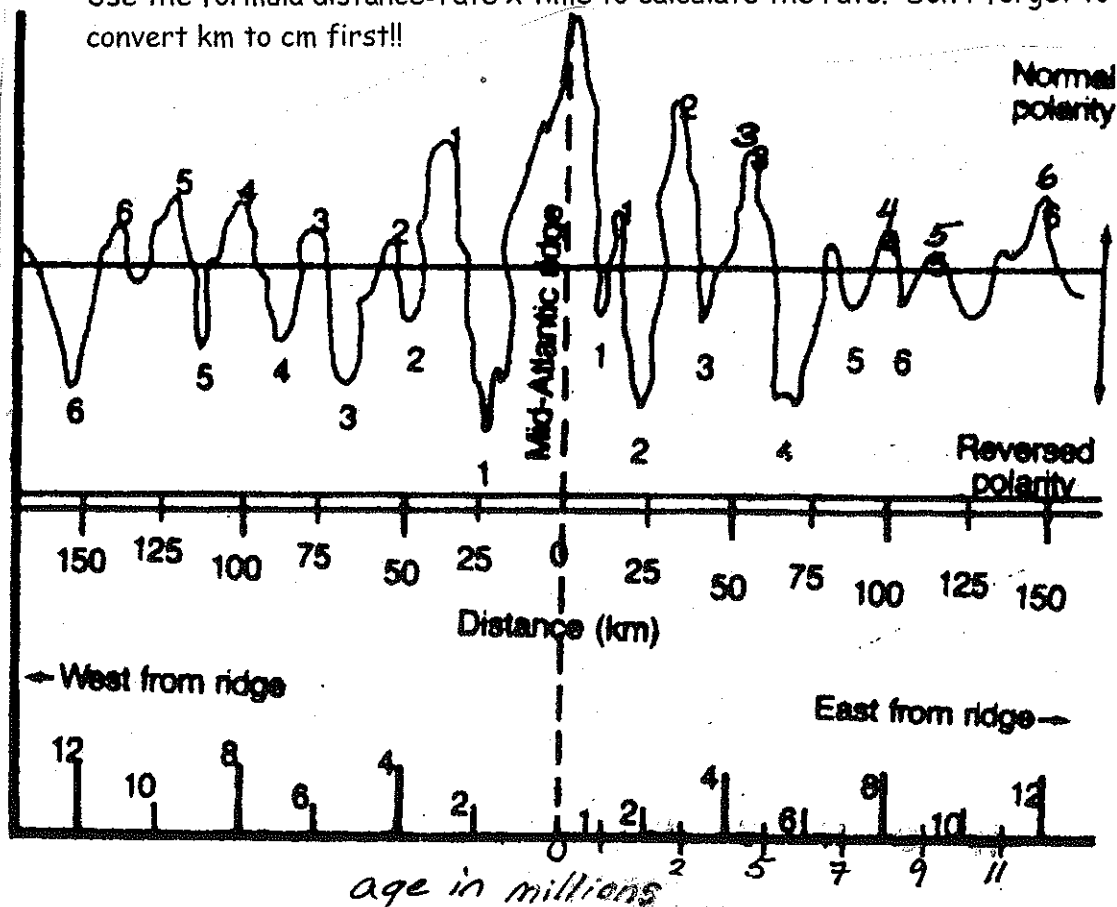
Sea-Floor Spreading Lab

Problem: How can you determine the rate of sea-floor spreading?

Materials: metric ruler, pencil, graph

Procedure:

- 1) Study the magnetic field profile below. Observe and identify the 6 major peaks east and west of the mid-Atlantic ridge. Also observe and identify both the normal and reversed polarity.
- 2) Place the ruler through the first peak west of the main rift. Determine and record the distance in km to the mid-Atlantic ridge.
- 3) Repeat step 2 for each of the major peaks east and west of the mid-Atlantic ridge for both normal and reversed polarity. Record your observations in the data table.
- 4) Find the average distance from peak to ridge for each pair of corresponding peaks on either side of the ridge. Record your observations in the data table.
- 5) Use the normal polarity readings to find the age of the rocks at each average distance. Record information in the data table.
- 6) Using the normal polarity readings, calculate the rate of movement in cm/yr. Use the formula $\text{distance} = \text{rate} \times \text{time}$ to calculate the rate. Don't forget to convert km to cm first!!





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Data and Observations:

Peak	1	2	3	4	5	6
Distance west normal polarity						
Distance east normal polarity						
Average distance						
Distance west reversed polarity						
Distance east reversed polarity						
Average distance						
Age from scale (mya)						
Rate of movement (cm/yr)						

Analyze & Conclude Questions:

1) Compare the age of the igneous rock found near the mid-ocean ridge with that of the rock found farther away from the ridge.

2) On your paper, draw a line that would represent the amount of total movement that would occur between a point east of the mid-Atlantic ridge and a point west of the ridge in one year. Write that total amount of movement below.

3) If the distance from a point on the coast of Africa to the mid-Atlantic ridge is approximately 2400 km, how long ago was that point in Africa at the mid-ocean ridge?



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