

2. Sea Floor Spreading

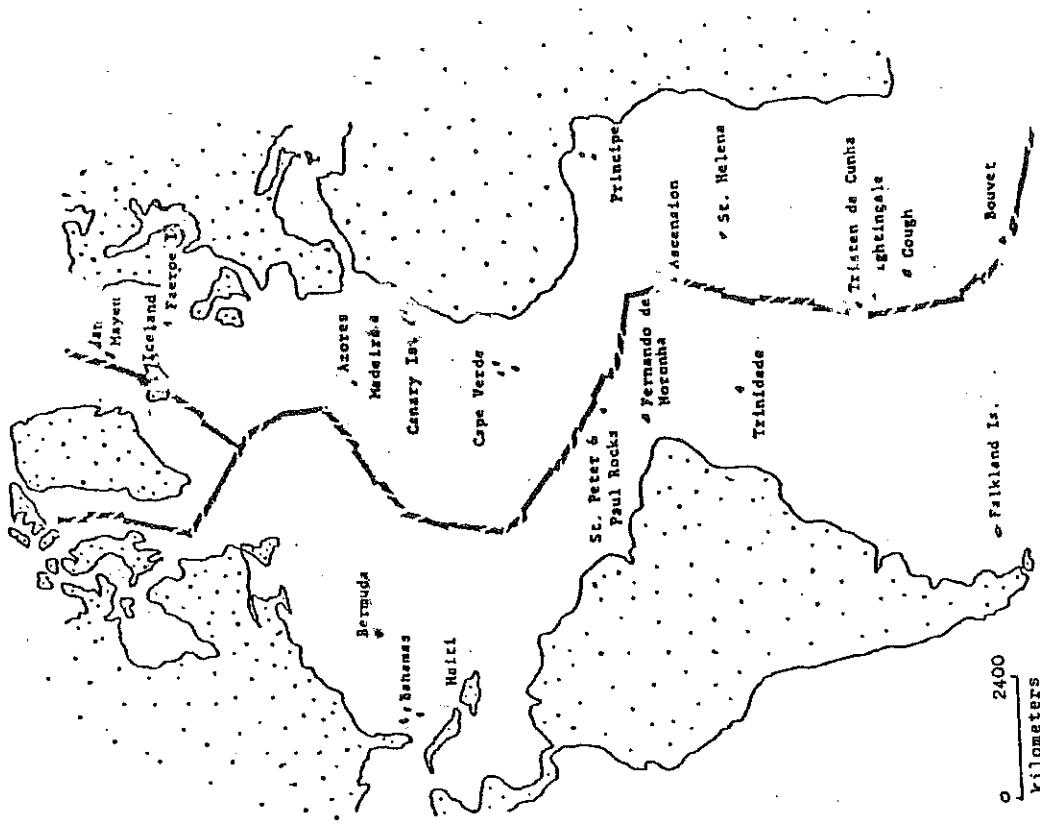
Can we find evidence that the ocean floor is moving away from the mid-ocean ridge towards the margins of the oceans? Let's consider the evidence provided by the age of islands in the Atlantic Ocean as indicated by the oldest rocks found upon them. On the map of the Atlantic Ocean on the next page, plot the age of each island or group of islands using the age figures in the table below.

ISLAND	AGE	DISTANCE TO RIDGE
1. Jan Mayen	10	100
2. Central Iceland	1	0
3. Eastern Iceland	42	150
4. Faeroes	78	600
5. Azores	60	300
6. Madeira Is.	97	1500
7. Canary Is.	108	1900
8. Cape Verde Is.	125	2200
9. Bermuda	120	2200
10. Fernando de Noronha	120	2000
11. Ascension	1	150
12. St. Helena	80	700
13. Tristan de Cunha	1	10
14. Bouvet	1	0

Take into consideration that still older rocks may eventually be found on some of the islands (thereby accounting for some of the exceptions to the pattern), and that the rate of movement of the ocean floor away from the ridge may vary from place to place.

- 1) What conclusion can be made about an island's age and distance from the Atlantic Mid-Ocean Ridge?
- 2) Which island group would you predict to be youngest-- St. Peter and Paul Rocks or Trinidad? (circle one)
- 3) How does the pattern determined on the map provide evidence for sea-floor spreading?

Atlantic Ocean



Name: _____

Hour: _____

Date: _____

ACTIVITIES: Continental Drift & Sea Floor Spreading

1. Continental Drift

Evidence in support of continental drift can be found in studying the global distribution of the fossilized remains of certain prehistoric lifeforms. Some prehistoric reptiles and amphibians appear in the list on the next page along with the locations of their known fossilized remains. Construct an appropriate key, and plot the sites on the map provided.

After that is complete, answer the following questions:

1) Which lifeform appears to be the most widespread?

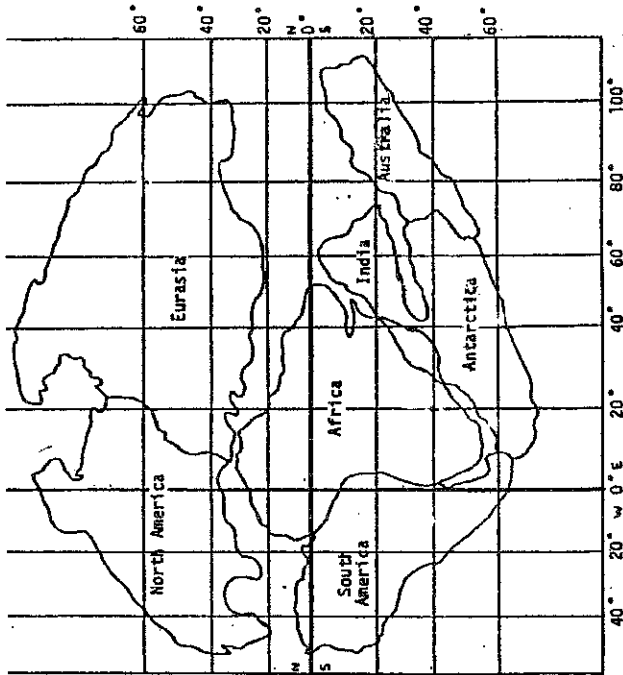
2) Which lifeform is limited to the smallest area?

3) If the remains of tropical creatures are found in Antarctica, what does that say about the continent's location in the distant past?

4) Assuming such creatures as Lystrosaurus could not swim great distances, why would their remains be found in such widespread areas of the world?

5) What general conclusion can you reach about the relationship between fossil evidence and continental drift?

Continental Drift



	Latitude	Longitude
LYSTROSAURUS (Amphibian) ●	60 S	40 E
	50 S	10 E
	30 S	50 E
CYNOGNATHUS (Reptile) ▲	60 N	90 E
	60 N	80 E
RHYTIDOSTOIDS (Reptile) ★	50 S	10 W
	40 S	10 E
	50 S	50 E
	40 S	20 E
	20 S	90 E