

TOPIC XII: The Dynamic Crust

LAB 12-3: CONTINENTAL DRIFT

INTRODUCTION: Since the early 19th Century, men have thought about the jigsaw fit of the continents. South America and Africa appear as though they could fit together.

Geologists have collected data that indicate that the continents are on separate "plates" of the earth's crust. Direct measurements of the relative motions of the continents have now shown that these semi-rigid plates are able to move toward or away from each other. They may also rotate. These motions are often associated with new crust (such as at the mid-Atlantic ridge) or they may force one plate to be consumed under another (for example, where the Pacific plate is being over-ridden by the Andes Mountains).

OBJECTIVE: You will see how the "jigsaw puzzle" pattern of the outline of the continents supports the theory of Continental Drift.

VOCABULARY:

sea-floor spreading:

subduction:

San Andreas Fault:

rift zone:

Pangea:

PROCEDURE:

1. On the "Cut-out page" cut out the continents along the dotted lines.
2. On a separate paper, fit them together to form one large landmass. Lines A and B should match up with their counterparts on the other continent.
3. Glue or tape the continents to the separate paper.

Questions

1. What three kinds of evidence support Wegner's theory that South America was at one time joined with Africa? Be specific!
 - a. _____
 - b. _____
 - c. _____
2. Where did Greenland join Pangea? Be specific

3. Since a dinosaur cannot swim, explain how a fossil can be found on all continents?

4. It is generally considered that dinosaurs live in warm climates, yet fossil remains are found in Antarctica. How can this be explained?

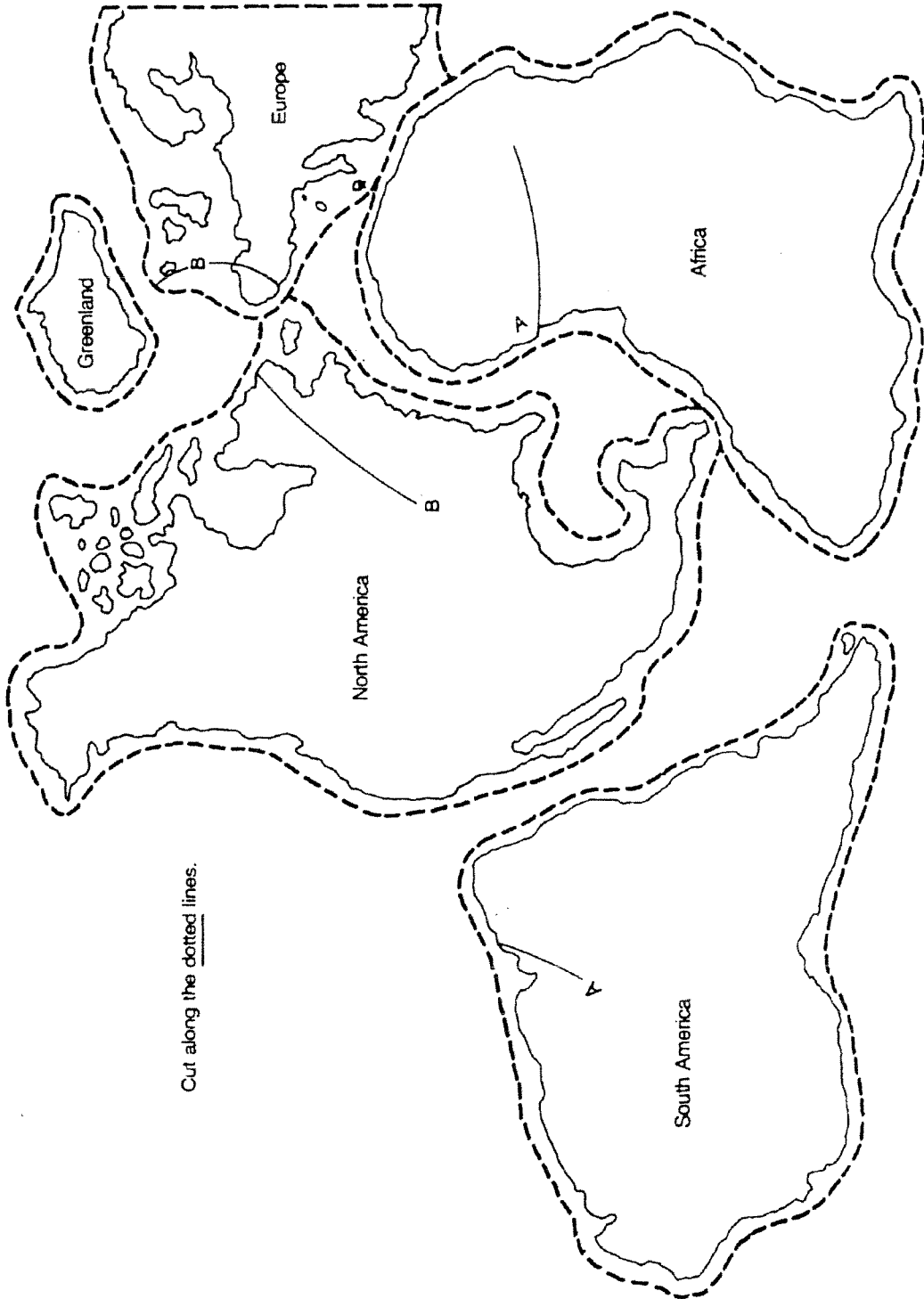
5. In Pangea where did Africa join North America?

6. According to the series of maps found on p9 of the ESRT in what direction has North America moved over the last 359 million years? _____
7. How has the climate of NY likely changed over the last 359 million years?

8. What could explain the existence of coal deposits in Antarctica?

9. What was the last period that all the continents were joined in Pangea? _____
10. What would have been NY's approximate latitude 359 million years ago? _____

CUT-OUT PAGE



Cut along the dotted lines.