



Rose Island Lighthouse Foundation Education Program – Lesson Plans

Grade Level: 3-5

Lesson Topic: The African Rock

Length: 50 minutes

RI Standard of Learning: **Science** (Physical Environment), **Social Science** (Geography)

Learning Objective: Students will be introduced to geography and geology as well as learning about the history of the continents.

Materials: Sample of the African rock from Rose Island, globe, world maps, picture of Pangea

Vocabulary: geology, geography, Africa, Pangea, plate tectonics, Panthalassa, convergent, divergent, sedimentary, metamorphic

Procedure:

On Rose Island: The rocks on Rose Island and Africa and the east central portion of South America, are identical matches for age and mineral composition. In other words the rocks in these areas of the two continents were produced at the same time and in the same place. This tells us that Rose Island and Africa were connected at one time! Students can look at the rocks on Rose Island to get an idea of what we are talking about.

In the Classroom:

- Introduction: If you have access to the internet, visit the site listed below. It goes step-by-step through the break-up of Pangea into the present day continents. Students will see that North America and Africa were once connected and how they've moved apart. It also has good follow-up questions.
- Development: If the class does not have access to the internet, you can guide them through the movement of the continents by using maps that they can cut up and rearrange. Or, divide the class into groups drawing each stage of the movement. They can also use the globe to visualize the geologic plates. Perhaps tape string on the globe to illustrate the plate lines. Give the students a sense of how far the plates have moved in miles. Compare how many miles they go from school to home to the distance the plate has moved. Present the fact that the plates have moved very slowly, over millions of years. They only move about an inch a year on average.
- Closure: Ask students if they remember the big rocks on Rose Island. Explain to them that the rocks they saw on Rose Island have traveled quite a distance to be there. Pass around the sample from the island. You can take this time to explain a little bit about the way the rock formed in layers over time.

Evaluation: Give each student a chance to feel and see the rock sample. Ask if anyone has ever been to Africa. Discussion of the rock should leave students slightly more interested in rocks than they were previously. Make sure all the students get an opportunity to see the maps and materials that illustrate where the rock came from.

References:

<http://volcano.und.nodak.edu/vwdocs/vwlessons/lessons/Pangea/Pangea4.html> - link to the visuals of Pangea and its break-up.