



Formation of Lake Superior

Overview: Students will put on a play to go through the steps of how Lake Superior formed by rifting of the Minnesota shore from the Wisconsin shore, erosion of mountains that were created from the rifting, and filling of the rift zone. Optional: discuss how the formations of Lake Superior also resulted in the formation of the different types of igneous (volcanic, from rifting and volcanic activity) and sedimentary (from sedimentation, or build up, of sediments from eroded mountains and other rocks) rocks we find in Lake Superior.

Subject Areas: Science, Social Science/History

Grade Levels: K-5, 6-8, 9-12

Topics: Earth Science/Geology, Water, Weather

Great Lakes Literacy Principles:

1. The Great Lakes, bodies of fresh water with many features, are connected to each other and to the world ocean.
2. Natural forces formed the Great Lakes; the lakes continue to shape the features of their watershed.
7. Much remains to be learned about the Great Lakes.

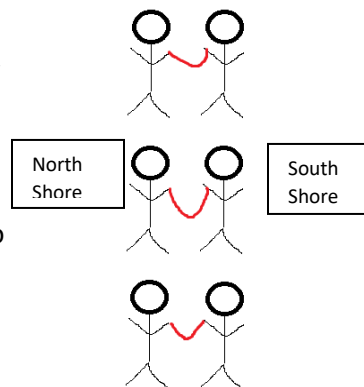
Materials:

- Red elastic pieces or red string (three pieces, about three feet in length)
- Blue fabric pieces (small squares, blue pieces of paper work too)
- Cardboard, cut into mountain shapes (can be cut from brown paper too)
- Map of Lake Superior (or projection)
- Optional: rocks that are common to Lake Superior (sandstone, basalt, rhyolite, gabbro, etc.)

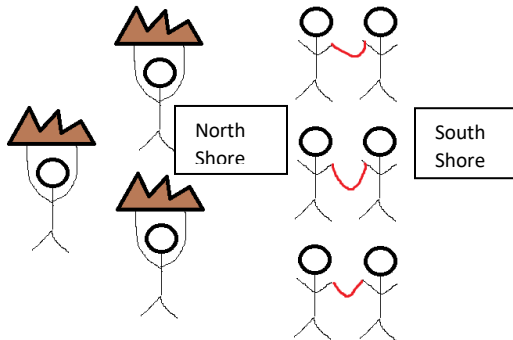
Introduction:

Ask students how Lake Superior was formed to see what they already know. After a few ideas, tell them they are going to put on a play to show how Lake Superior was formed.

Have two or three pieces of red string or elastic. Have two students for each piece. Partnered students will stand face-to-face and close to each other. Keep the strings parallel to each other. Tell the students that one row of students is the north shore while the other row is the south shore. (See picture at right)



Now, dramatically exclaim that an earthquake hits. Have students jump or shake to show the impact. As they are shaking, have them move a couple feet apart while, behind the students on the north shore, other students hold up the mountains above their heads. (See below)



Next, have students “rain” on the “mountains” by walking around the mountains with the blue “rain” above their heads, which causes weathering. The rain will cause erosion of the mountain (have mountains bring arms down) which will flow into the rift zone (the empty space between the north and south shore). Have the rain collect in the rift zone. What has the rift zone become? (Lake Superior)

Optional: Have students examine rocks. Compare and contrast the rocks. Sedimentary rocks were formed when the rain carried the eroded rock material from the mountains to the rift zone (i.e., the bottom of Lake Superior). The igneous rocks were formed when the earthquake caused lava to flow which then cooled to form rocks. Metamorphic rocks formed with the heat and pressure from forming mountains.