Rift Valleys - Divergent boundaries with continental lithosphere

Review:

1. How do the plates move at a divergent boundary?

   Apart from each other

2. What kind of plate edges are at a rift valley, continental or oceanic?

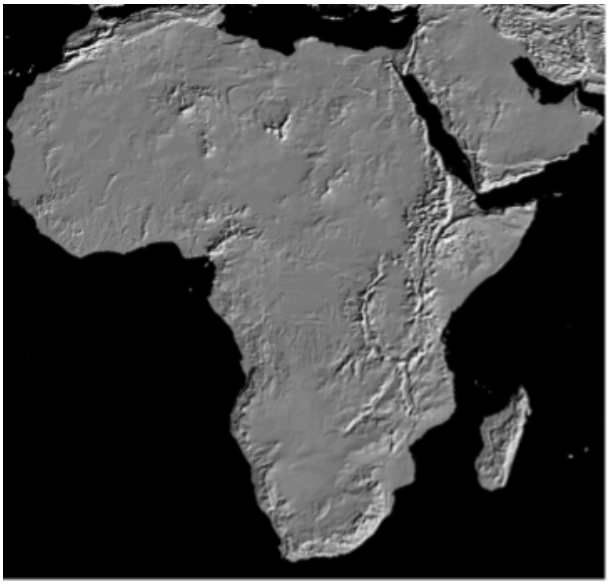
   Continental

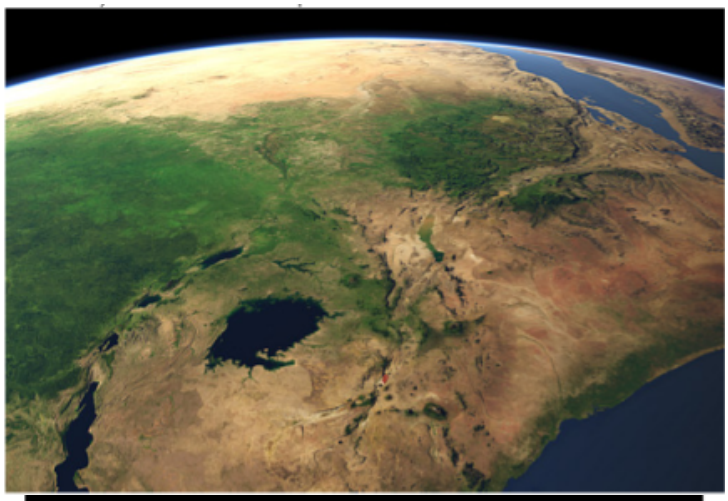
Procedure:

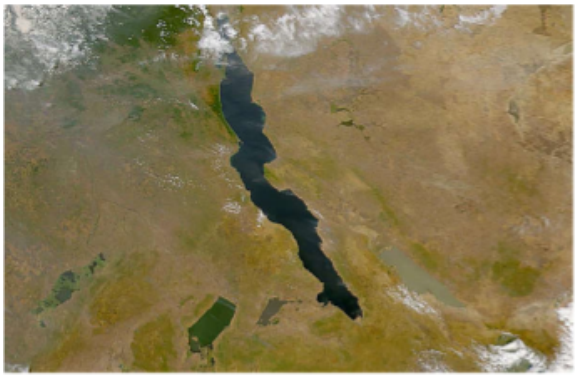
1. What did you see when a rift valley was modeled with the wooden blocks? (1 point)

2. Make at least four observations for rift valleys from the various **photos.** What evidence is there that a rift valley is present? (4 points)

3. Using the diagrams write a paragraph about how rift valleys are created. Be complete and use details. Use the back if you need more space to write. (5 points)





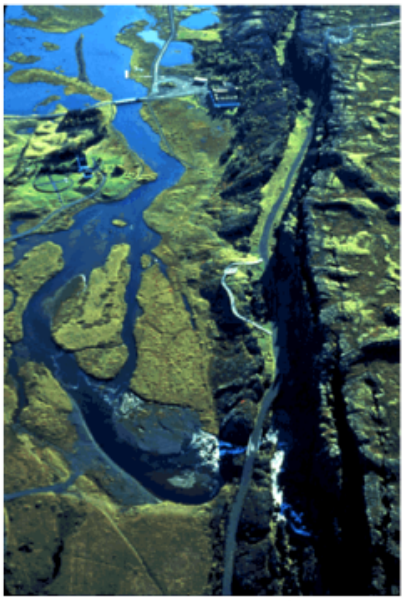


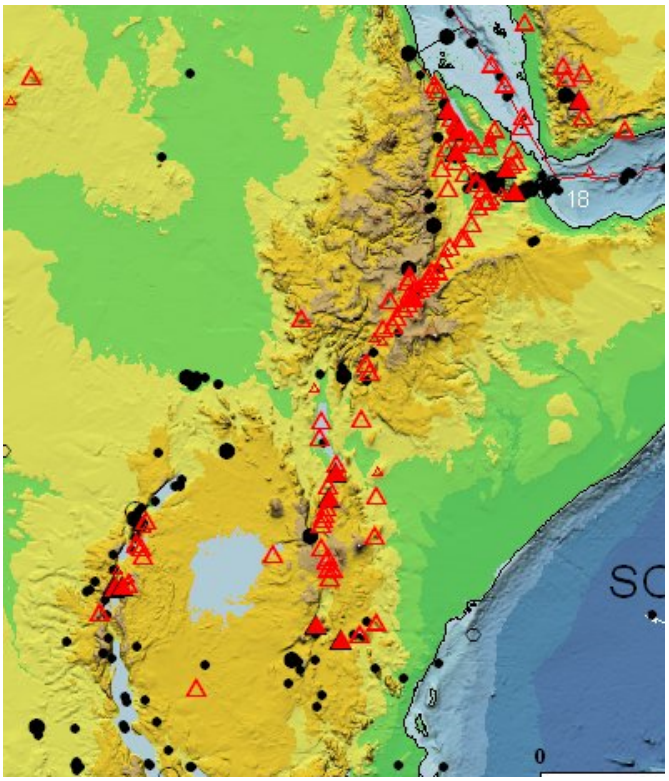
Africa is being torn apart. The large rift valleys can be seen sometimes filled with lakes.

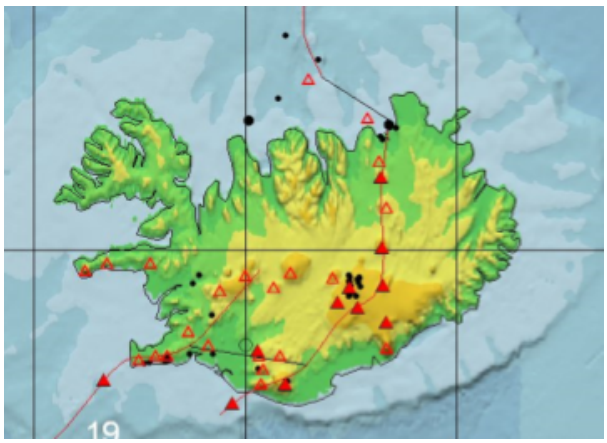
Africa's rift valley

Notice the cracks and volcanoes.

Iceland's Thingvellir Rift Valley



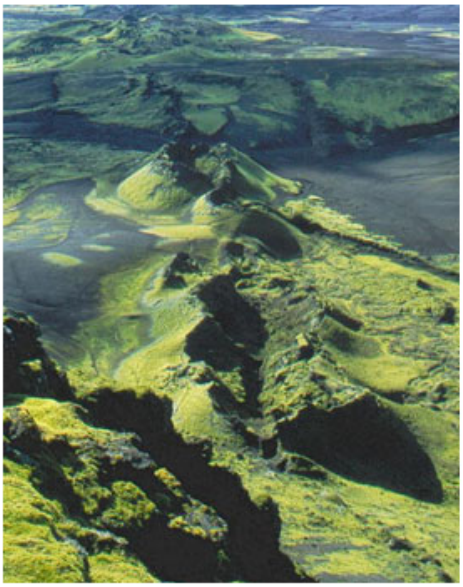




Both on Africa and Iceland volcanic activity is along the rift valley. Here lava come up through the cracks as the lithosphere is splitting apart.

African Rift Valley volcanoes

Notice both the cracks and how the volcanoes are in straight lines.



Iceland's rift valley volcanoes

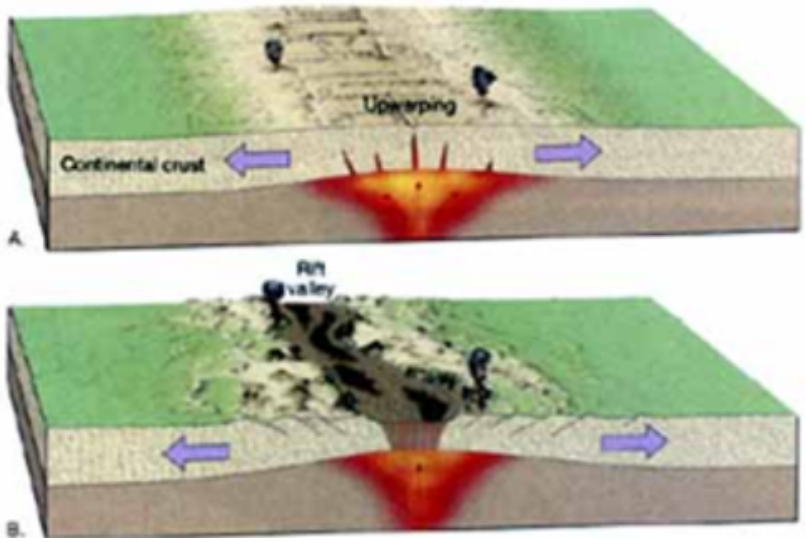
Laki Iceland

5 km long fissure

Lava fountains taller than a 25 story building

Fissures can open up to 1 meter wide.

Lasted 5 days in January, 1981.



Convection currents in the mantle add new hot rock under the continental plate. This pushes the brittle lithosphere upwards in a bulge. This is called upwarping. The brittle lithosphere cracks and the middle section is free to fall down into the soft, weak asthenosphere. This causes a valley.