

Name _____

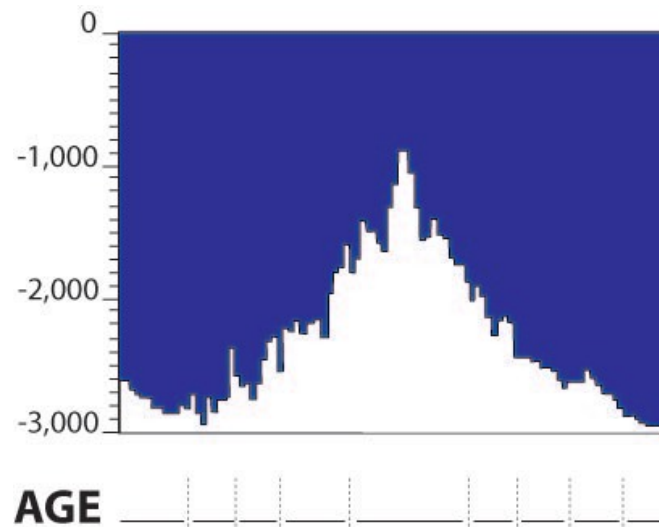
Investigation 3: How does thermal energy move around in the Earth? Investigation Sheet

<http://www.ei.lehigh.edu/learners/tectonics>

Read **all** instructions on your handout and answer **each** question in complete sentences where appropriate.

1. Do continents or oceans have higher surface heat flow?
2. Which kind of plate boundary has the highest surface heat flow?
3. What is occurring at these boundaries?
4. Why do oceans have high surface heat flow?
5. In the Atlantic Ocean, where is the youngest ocean floor located?
6. How does heat flow relate to age of the ocean floor?

7. Use your map to fill in the **age of the ocean floor** in the spaces below the profile



8. How does ocean depth relate to age of ocean floor?
9. What is the relationship between ocean age, ocean depth, and surface heat flow?
10. How is hotspot volcanism different from other volcanoes?
11. Which two plates have the most hotspots? **Reminder:** click on the map to learn the name of the plate.
12. Why are there more hot spots on the African Plate than on the South American Plate? **Hint:** look at the length of the plate vectors.
13. The Pacific Plate is moving fast! Why are there more hot spots in the Pacific Ocean?
Hint: Think about what happens as hot spot travels from the mantle to the surface. Is it faster or easier to go through something thick or thin?