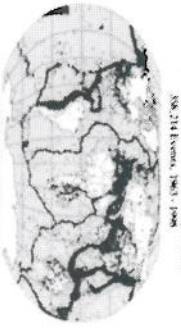


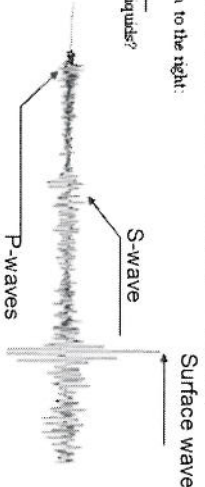
1. Use the maps to describe the global placement of volcanoes and earthquake epicenters to answer the next question.
Reference: International of Earthquake Statistics, 1963-1968



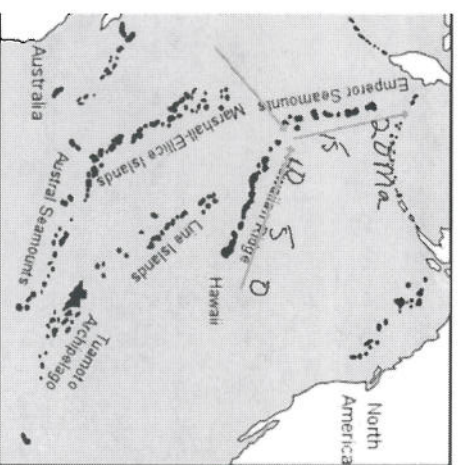
2. What are most earthquake epicenters and volcanoes usually associated with? (i.e., where do most occur?)
Earthquake Epicenters
Volcano Locations
 near plate boundaries

3. What features would you most likely find at a convergent boundary?
Volcanoes

4. Label the 3 types of waves on the seismogram to the right:
 • Which wave arrives first? **P-WAVES**
 • Which wave can travel through solids and liquids? **P-WAVES**
 • Which wave is most destructive? **Surface waves**
 • Which wave is slowest? **Surface waves**



5. What can scientists learn when they triangulate (get it from three different locations) seismic data?



Locate the Hawaiian Ridge and Emperor Seamounts that were formed by the same hot spot under the lithosphere.

- Draw an arrow that shows the movement of the Hawaiian Ridge
- Draw an arrow that shows the movement of the seamounts.
- Draw an arrow to the place where the plate direction changed.
- Explain the change in direction of the land forms.

The plates moved north over the hot spot for millions of years and then began moving northwest

5. What can scientists learn when they triangulate (get it from three different locations) seismic data?
magnitude **epicenter**

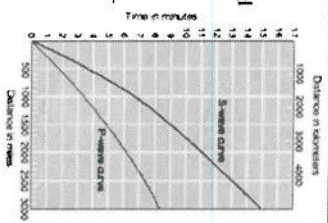
6. What generally happens to an earthquake's intensity the farther you move from the epicenter?
decrease

7. List factors that could explain a lower intensity closer to the epicenter of an earthquake built on solid rock or bedrock

8. Based on the graph to the right, how far away is the epicenter if the P-waves and S-waves about 6 minutes apart? **2,500 miles**

9. What type of landforms are associated with processes related to magma and erosion?
Volcanic neck, dike, sills

10. What can you tell about a volcanic eruption by knowing the percentage of SO₂? What kind of explosion and speed of lava



BCR: SHAPE OF CONTINENTS

What do the shapes of continents tell scientists about plate movement? In your response, be sure to describe several types of evidence Alfred Wegener used to support the movement of continents describe seafloor evidence that modern scientists used to support the theory of plate tectonics

In basic terms, what was Wegener's Theory of Continental Drift?
 All landforms were joined together in one giant landmass of Pangaea.

- What was his evidence?
1. Landforms: coast lines and mountain ranges lined up.
 2. Climate: tropical plant fossils in arctic region, glacier scratches in tropical region
 3. Fossils: fossils of same, non-swimming animal found on two different continents

Why was his idea rejected? Could not find force that was able to move entire continents

What provided the evidence that led to his idea finally being accepted? **sea floor spreading**

- Explain how the following provided evidence of sea-floor spreading
- molten material coming up
 - mid ocean ridge
 - old crust and new crust
 - magnetic strips labeled as pointing north or south
- "new" Earth was breaking through the surface and pushing the crust apart; the ridge spread out from a center line; young crust was near ridge, older was farther away; the direction of the switching magnetic fields were "mirrored" on sides of ridge