

Chapter 10 Lesson 3 Part 3

I can explain how plate movements cause earthquakes, mountains, and volcanoes.

SPI 0707.7.6 Describe the relationship between plate movements and earthquakes, mountain building, volcanoes, and sea floor spreading.

What Mastery Looks Like

26 Which feature is formed by the movement of tectonic plates?

F volcanic island chain

G river delta

H beach

J continental glacier

Causes of Plate Tectonics p.313

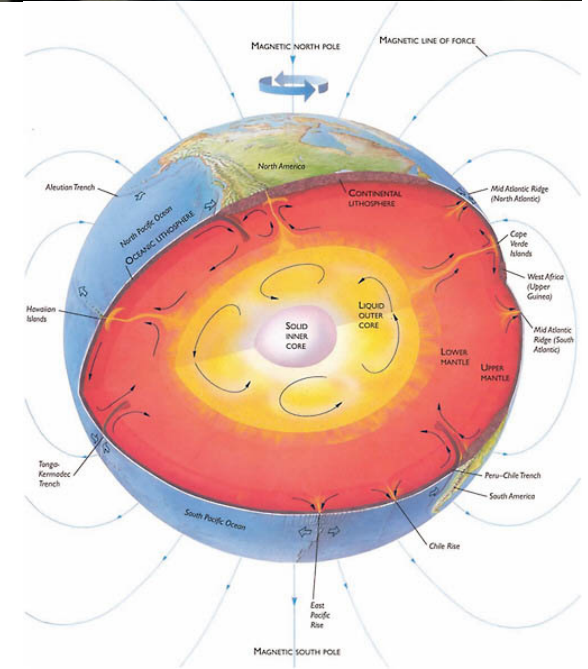
- What causes the plates to move?
 - Scientists think they know.
 - Discuss with your neighbor what you know about the causes of plate tectonics.



Convection Inside Earth

Density:
compactness;
closely set or
crowded
condition.

- <https://www.youtube.com/watch?v=Z9Hr7V1S0pl>
- The cycle of heating, rising, and sinking is called a convection current.
- Scientists believe that the DIFFERENCES in density cause hot, plastilike rock to be forced to the surface.
- Think about soup!
 - Soup that is cooking in a pan on the stove contains currents caused by an UNEQUAL distribution of heat in the pan.
 - Hot, less dense soup is forced upward by the surrounding, cooler, denser soup.



Moving Mantle Material

- Wegener was never able to explain why plates move.
- Today, researchers have created several possible explanations.
- All of these explanations use convection in one way or another.
- Therefore: The transfer of heat inside Earth provides the energy to move plates and causes many of Earth's surface features.

Mantle Convection Worksheet

Brain Buddy

- In just a moment, I will tell you to move.
- When I do, you will get with your brain buddy to complete a few questions.
- You will need a blue and red art utensil. I will bring these around.
- You will have 15 minutes to complete the activity. You will complete one worksheet per buddy group.
- Move to your brain buddy's desk.
- We will go over the answers together in 15 minutes.

Features Caused by Plate Tectonics

- As plates move, they interact.
- This interaction can create features and forces on Earth's surface.
 - Mountains
 - Ocean Basins
 - Volcanoes
 - Earthquakes
- We will look at the specific causes of each of these tomorrow.

Exit Ticket

- <http://science.howstuffworks.com/environmental/plate-tectonics-videos-playlist.htm> **BE CAREFUL WITH THE AD THAT SHOWS UP BEFORE THE VIDEO!**
- Watch this short clip.
- Think about a time in your life when you saw a feature that was likely caused by plate tectonics.
- Write a paragraph explaining where you were, what it looked like, and how you know it was related to plate tectonics.