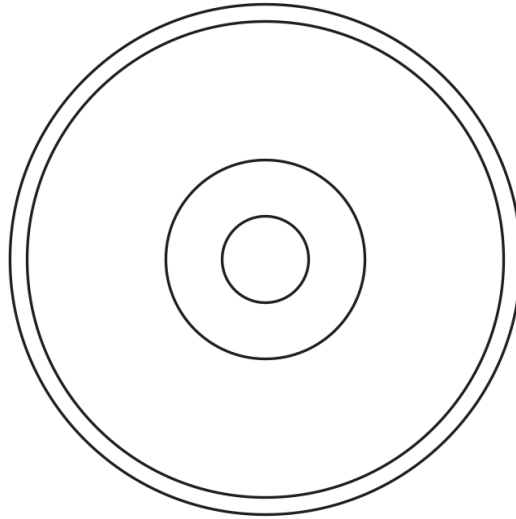


1. Layers of the Earth:
 - Label the layers
 - Describe the type(s) of material in each layer
 - Describe the rigidity (or fluidity) of each layer
 - Describe the density of each layer



2. Reasons why the inside of the Earth is hot:

3. Why is the surface of the Earth cooler?

Two General Categories of Rocks: **Mafic** and **Felsic**

Characteristics of Mafic Rock:

- Dark in color
- More Dense
- Low Viscosity (runny) when turned to magma
 - Does not build up high pressure, so it reduces gentler eruptions
 - Does not pile up, so volcanoes are lower and rounder
- An example of this type of rock is basalt
- Found mostly in the mantle and in ocean crust (because it is dense, and it sinks)
- It is called “mafic” because it contains the elements Magnesium (symbol **Ma**) and Iron (symbol **Fe**).

Characteristics of Felsic Rock:

- Light in color
- Less dense
- High Viscosity (gooey) when turned to magma
 - Builds up pressure and makes volcanoes more explosive
 - Piles up, so it makes volcanoes steeper
- An example of this type of rock is granite
- Found mostly in continental crust and in seafloor sediment.
- It is called “felsic” because it contains the minerals **Feldspar** and **Silica**.

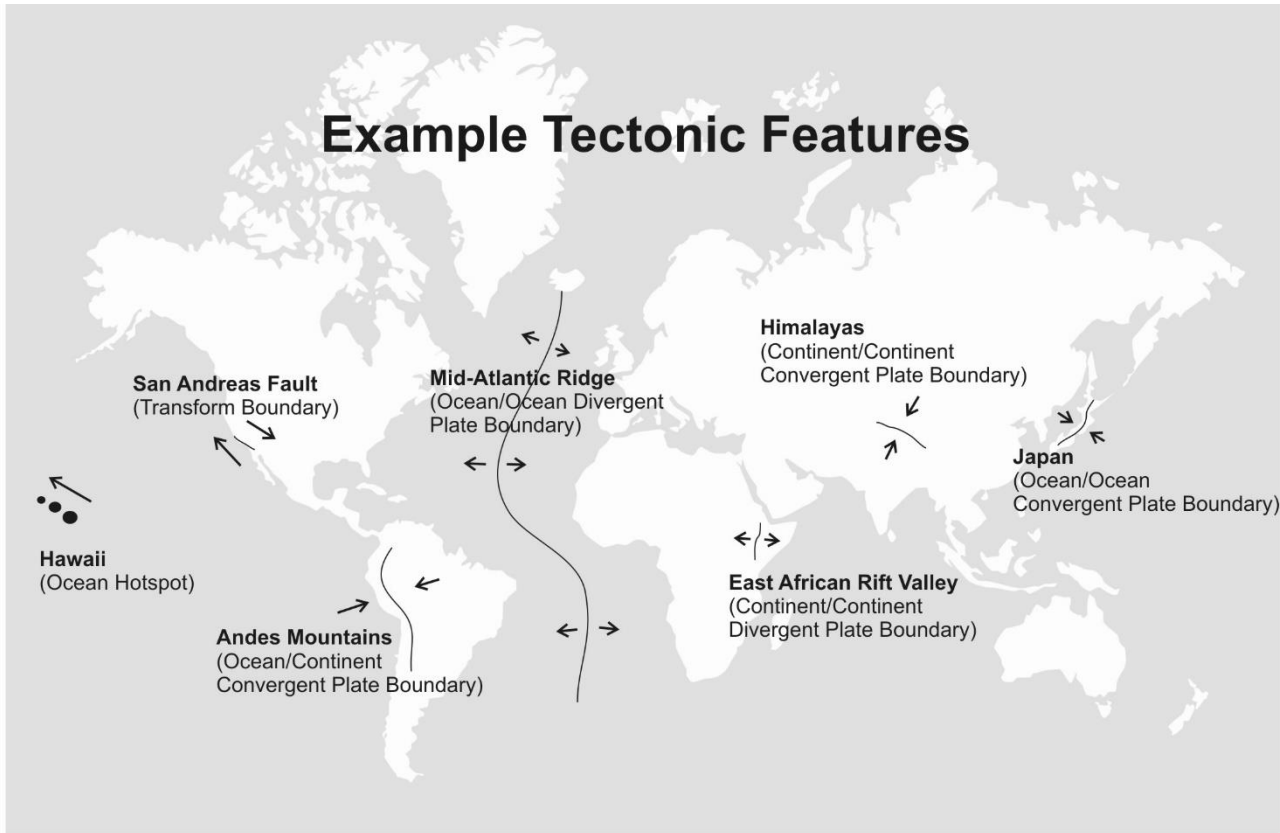
Felsic:
Continental Crust,
Seafloor Sediment



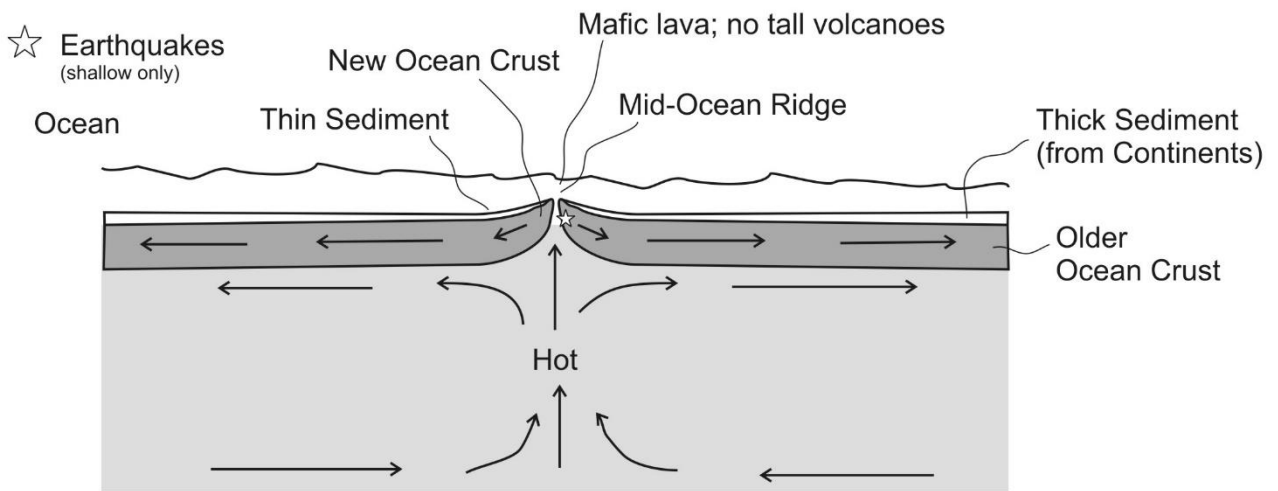
Mafic:
Ocean Crust,
Mantle



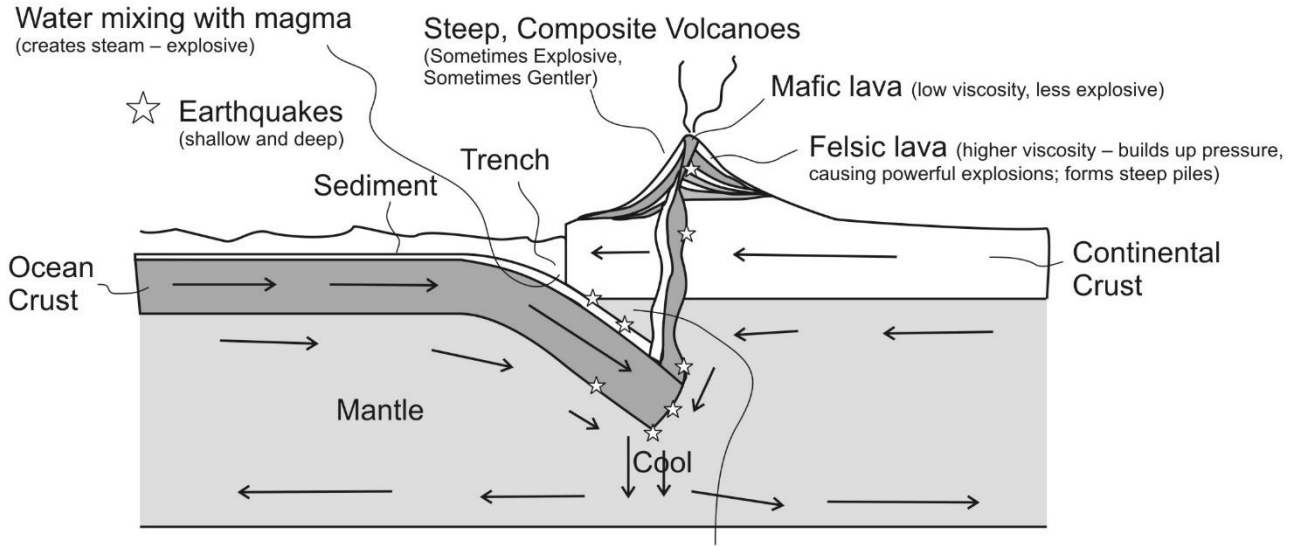
Example Tectonic Features



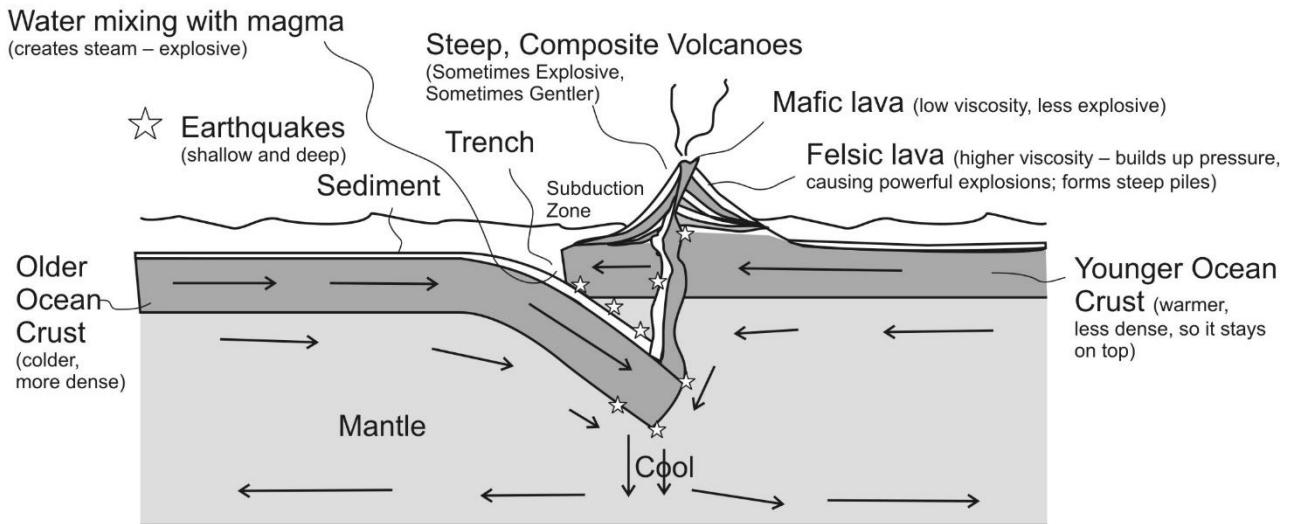
Ocean/Ocean Divergent Example: Mid-Atlantic Ridge



Ocean/Continent Convergent
Example: Andes Mountains, South America

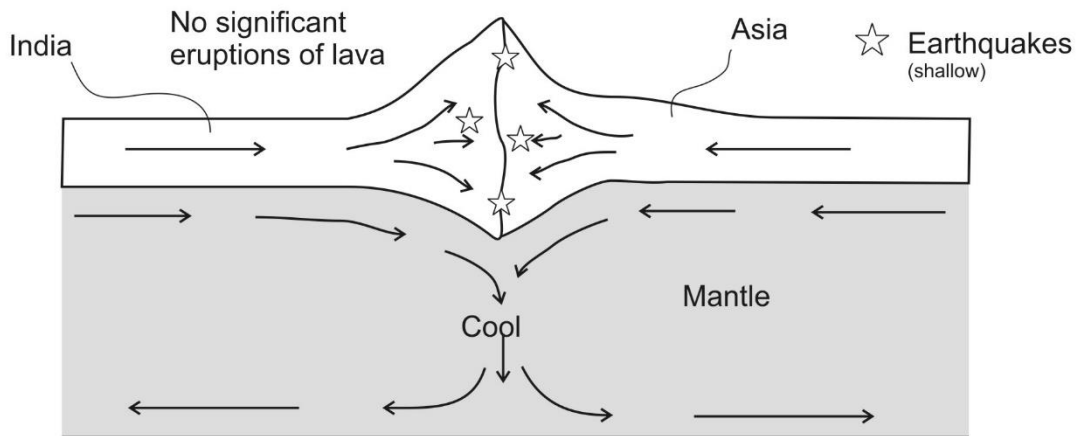


Ocean/Ocean Convergent
Example: Japan



Continent/Continent Convergent
Example: Himalayan Mountains – Mt. Everest
(India colliding with Asia)

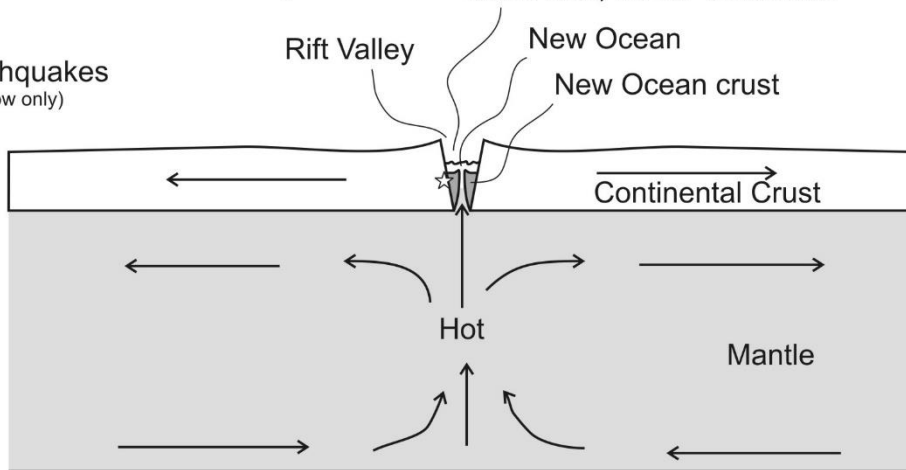
Tall, non-volcanic mountains



Continent/Continent Divergent
Example: East African Rift Valley

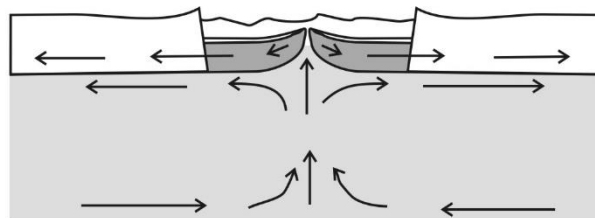
Mafic lava; no tall volcanoes

☆ Earthquakes
(shallow only)

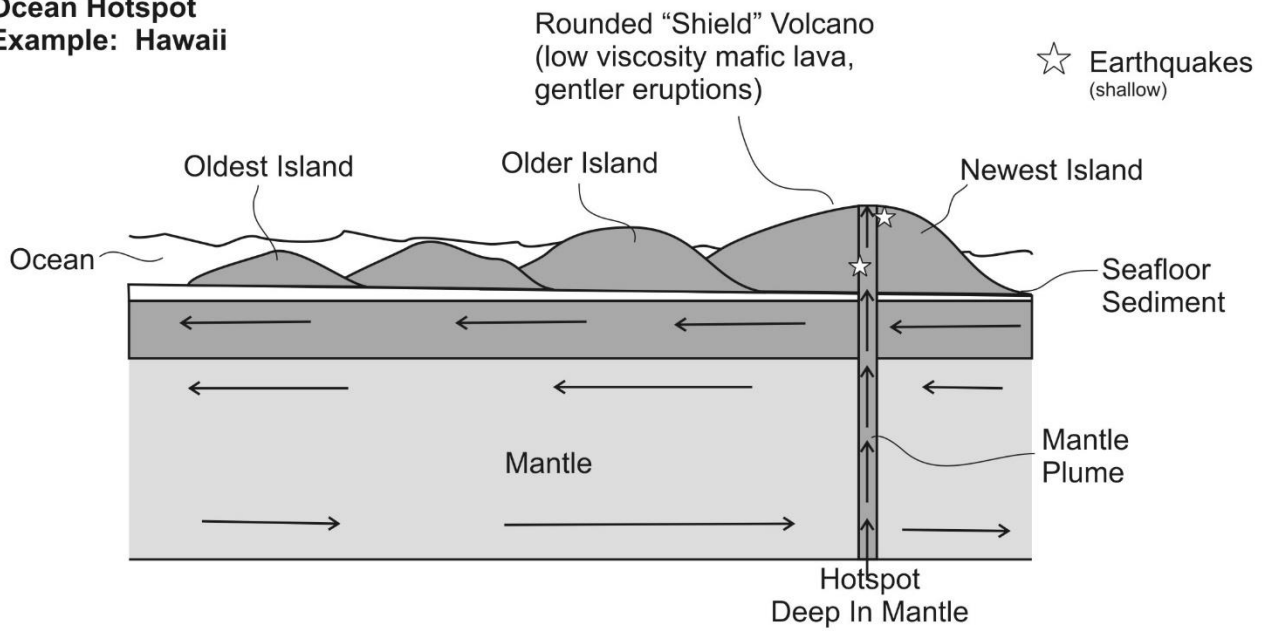


As the continents split apart and more ocean forms,
 a continent/continent divergent boundary turns into an
 ocean/ocean divergent boundary.

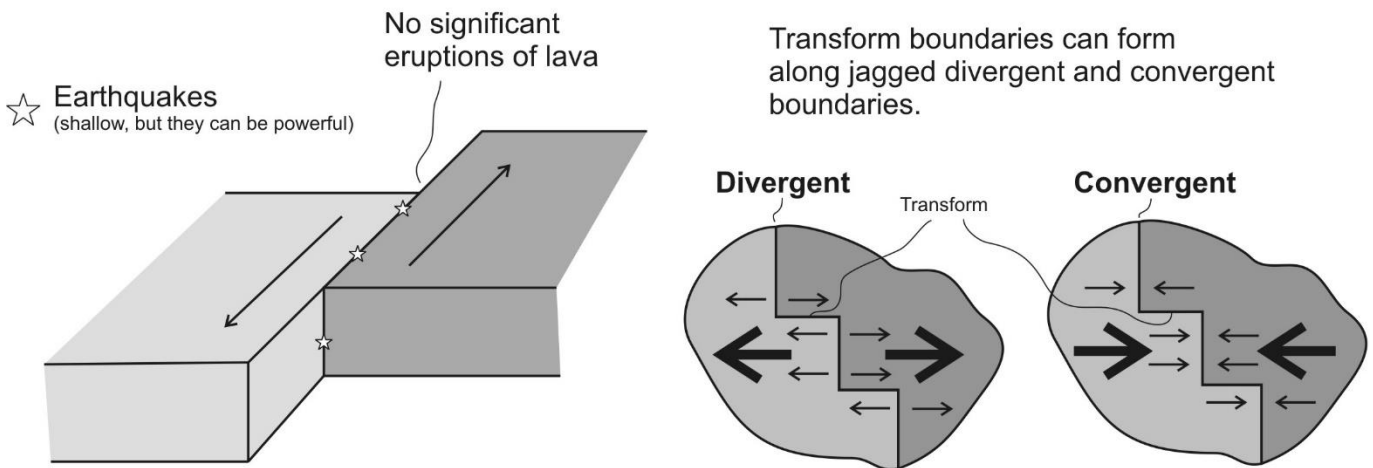
Millions of
 years later



Ocean Hotspot
Example: Hawaii



Transform Plate Boundary
Example: San Andreas Fault, California



Drawing Tectonic Features (Plate Boundaries and Hotspots)

Feature Name:

Example:

Check all that apply:

- | | |
|---|---|
| 1. <input type="checkbox"/> There are steep, <i>composite cone</i> volcanoes. | 7. <input type="checkbox"/> This is a subduction zone. |
| 2. <input type="checkbox"/> There is an ocean trench here. | 8. <input type="checkbox"/> The mantle below this area is relatively cool. |
| 3. <input type="checkbox"/> <i>Relatively</i> violent eruptions of lava <i>can</i> occur. | 9. <input type="checkbox"/> New ocean crust is being created here. |
| 4. <input type="checkbox"/> <i>Relatively</i> gentle eruptions of lava <i>can</i> occur. | 10. <input type="checkbox"/> The mantle below this area is relatively hot. |
| 5. <input type="checkbox"/> Shallow earthquakes (in the crust) can happen here. | 11. <input type="checkbox"/> There are tall mountains here, but there are no volcanoes. |
| 6. <input type="checkbox"/> Deep earthquakes (in mantle) can happen here. | 12. <input type="checkbox"/> There are rounded, <i>shield</i> volcanoes. |
-

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