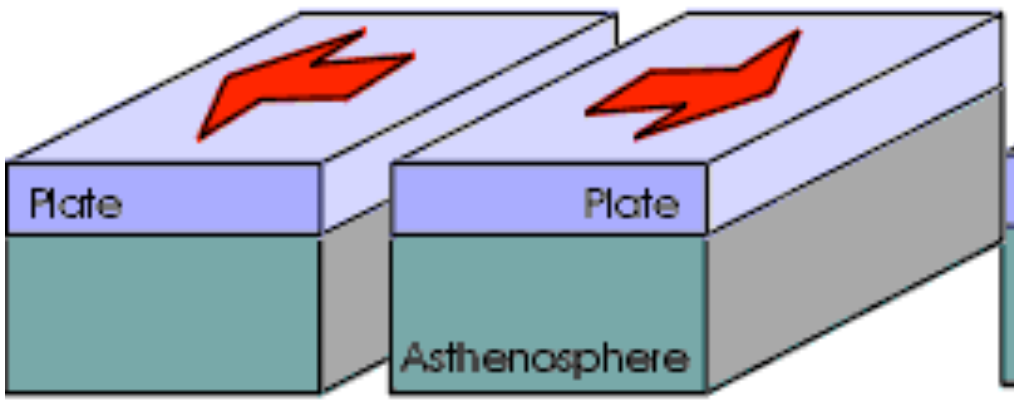
Long Term Target:

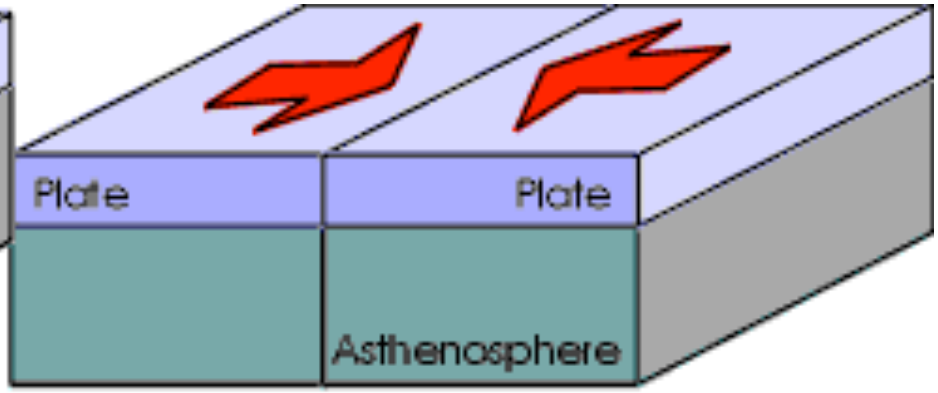
I can apply the theory of Plate Tectonics to explain the motion and changes of Earth's continents and crust over time and identify the evidence that supports this theory.

Today's Target:

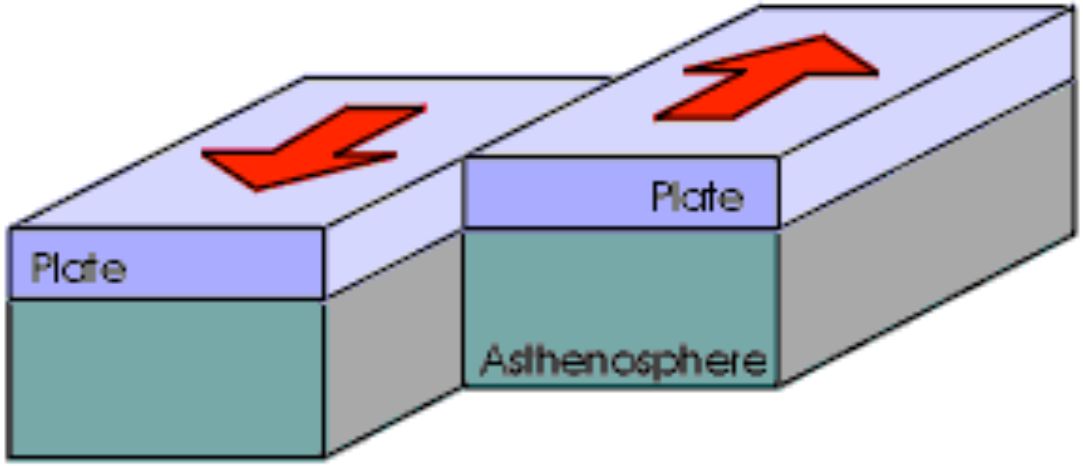
I can identity the 3 types of plate boundaries.



Divergent



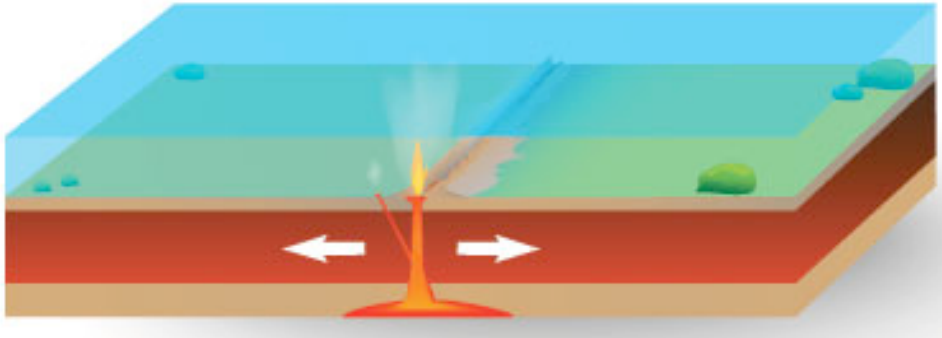
Convergent



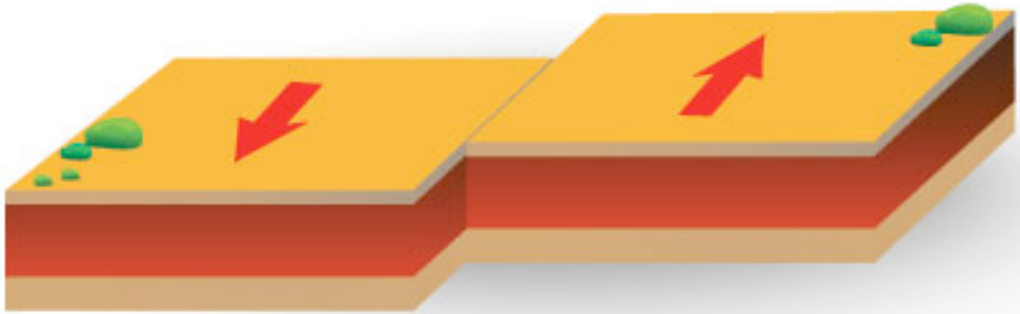
Transform

THREE TYPES OF PLATE BOUNDARY

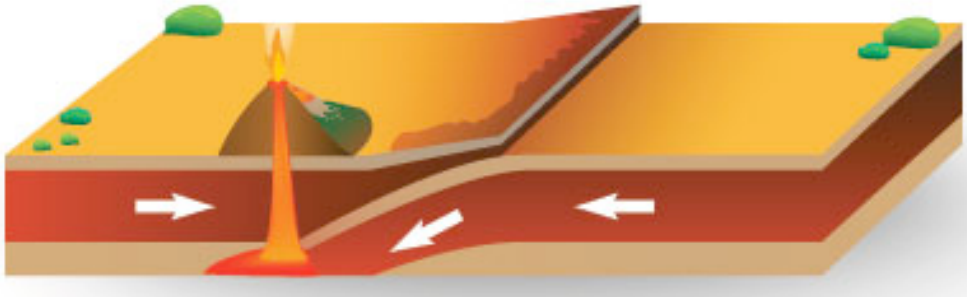
Divergent plate boundary



Transform plate boundary

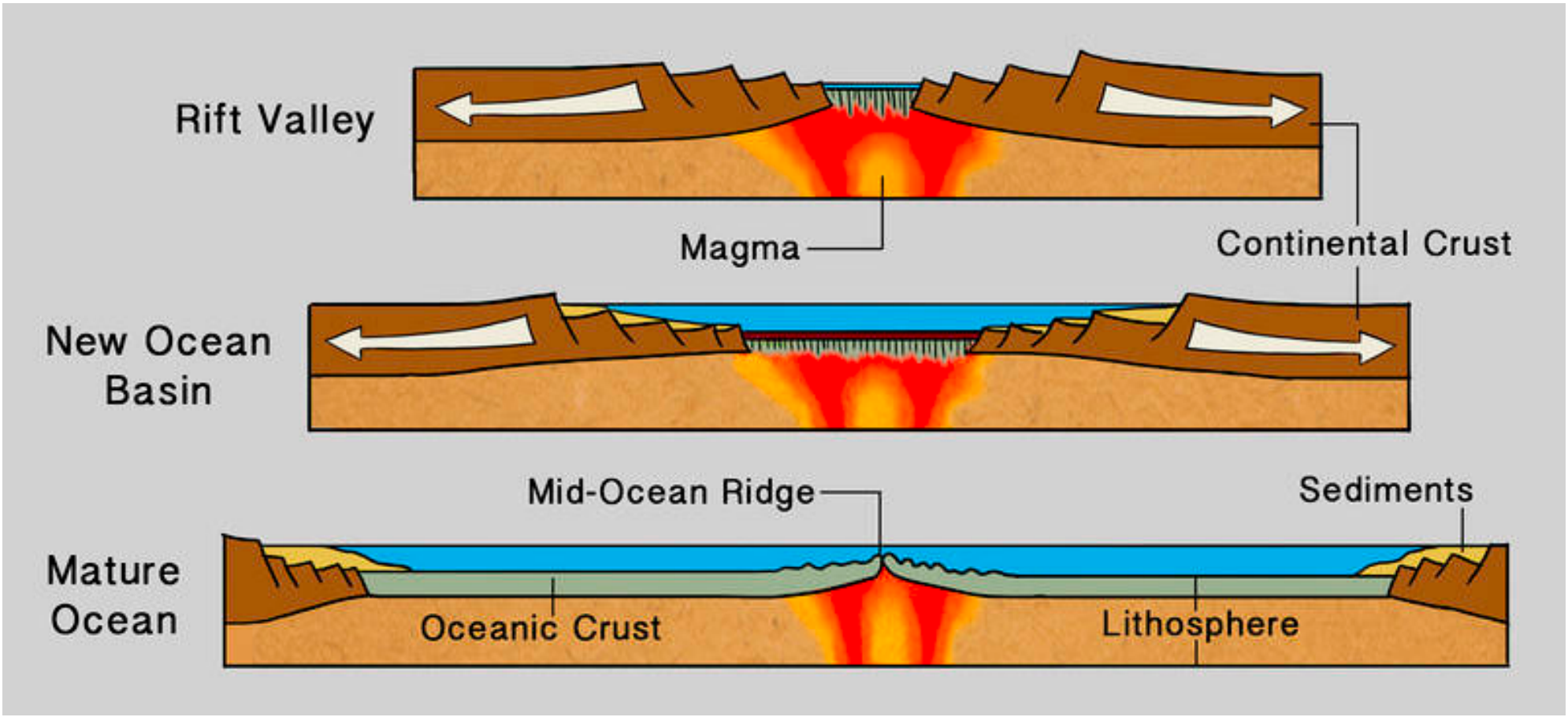


Convergent plate boundary



Divergent Boundaries

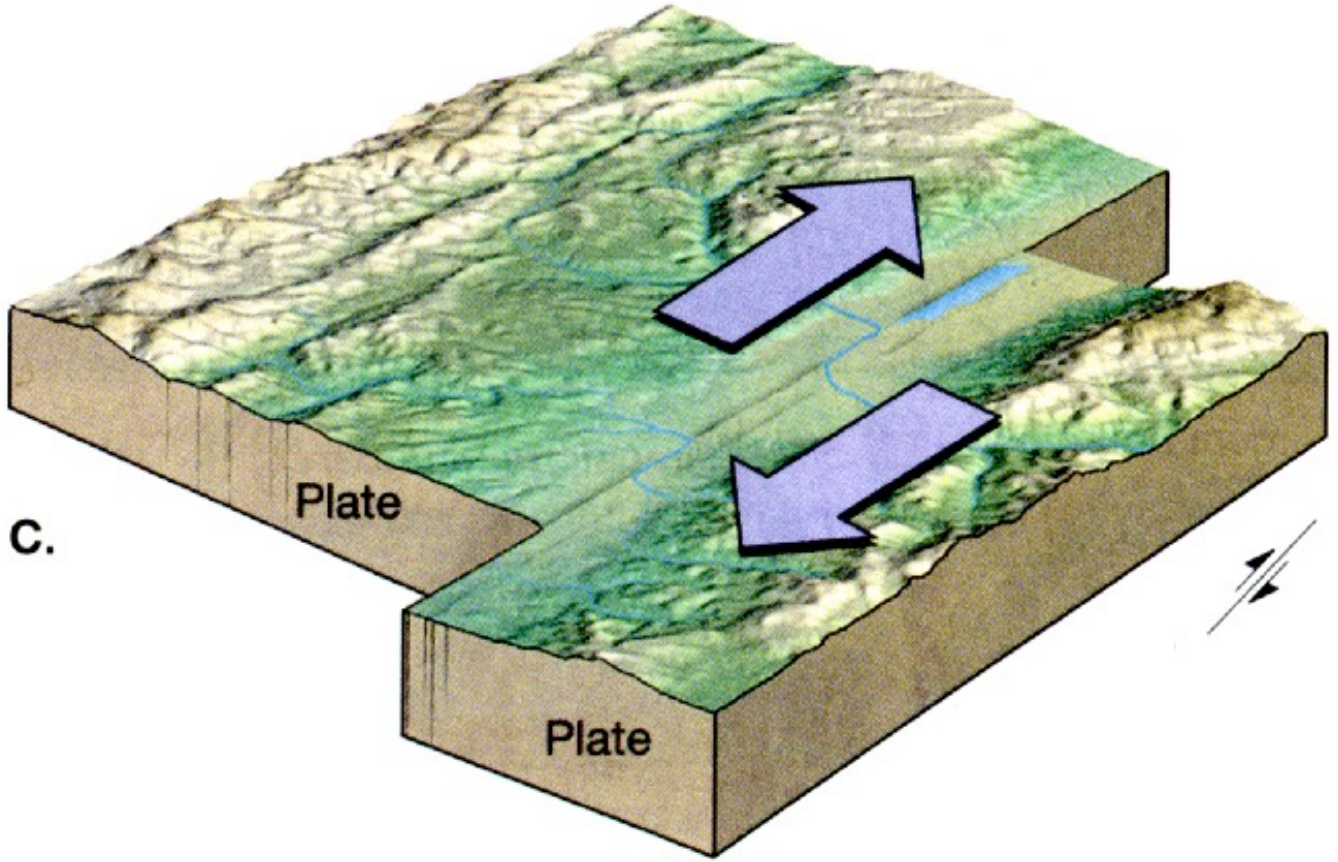
Where two plates are moving away from each other, either on the ocean floor or breaking apart a continent.



Demo:
https://www.learner.org/interactives/dynamicearth/slip3.html

Transform Boundaries

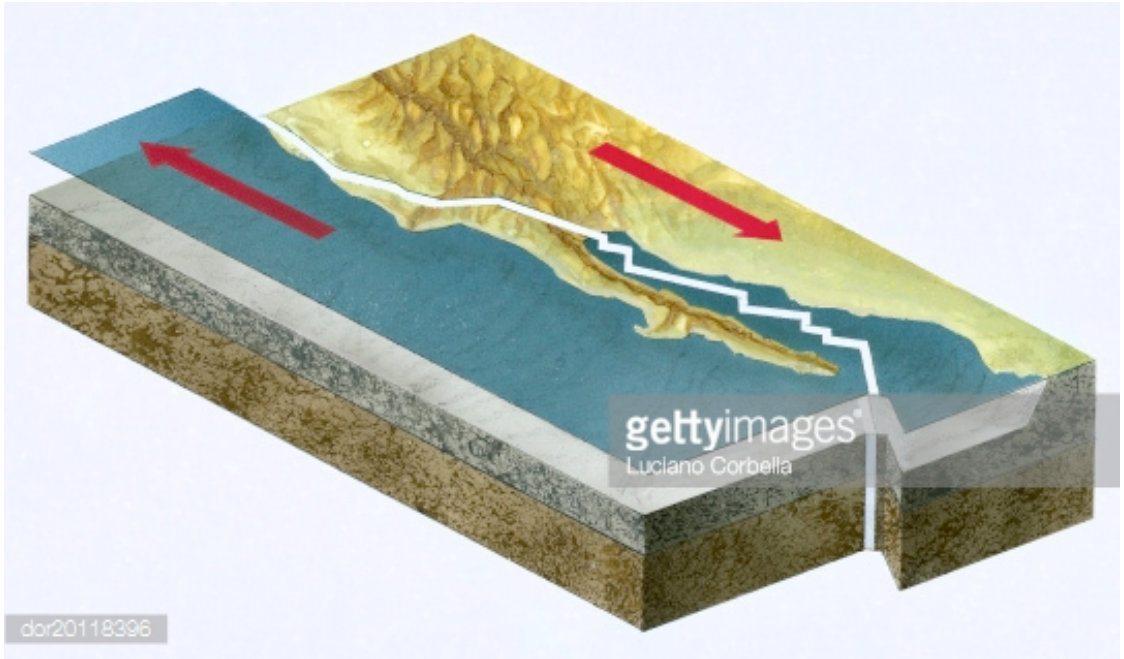
Where two plates are sliding past each other.



Demo:
https://www.learner.org/interactives/dynamicearth/slip3.html

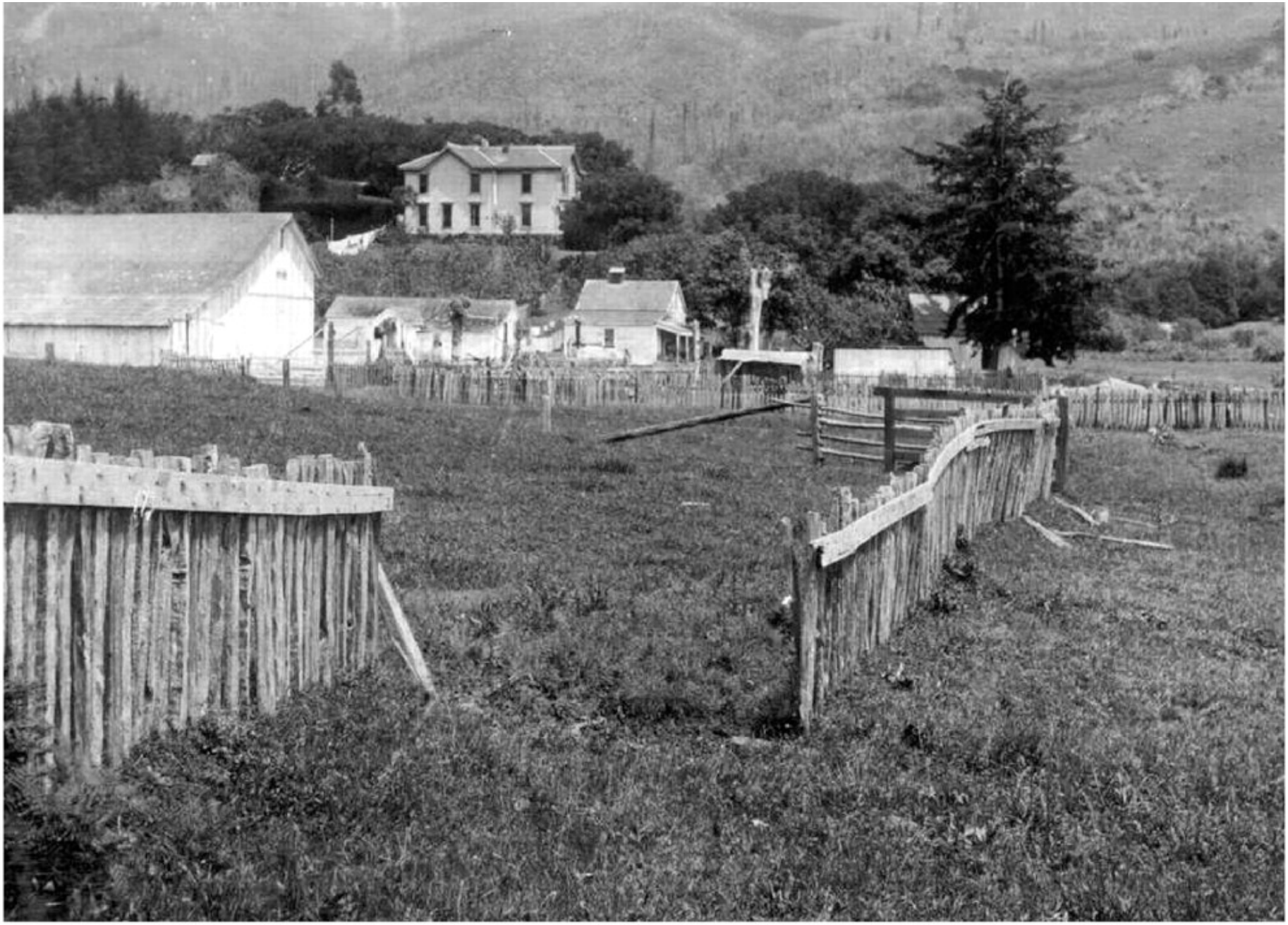
Transform Boundaries and Earthquakes

It is not easy for plates to slide past each other since they get caught and stuck, building up a tremendous amount of **stress**. When enough tension has built up, the plates slip releasing all of the energy at once as an **EARTHQUAKE**.



Hand Demo:


California's
San Andreas Fault
Crescent City
Eureka
Garberville
Point Delgada
Point Arena
Ukiah
Santa Rosa
Point Reyes
San Francisco
Daly City
San Jose
Santa Cruz
Hollister
San Juan Bautista
Monterey
Parkfield
San Luis Obispo
Simmler
Carrizo Plain
Soda Lake Rd
Frazier Park
Palmdale
Santa Barbara
San Bernardino
Desert Hot Springs
Los Angeles
Palm Springs
Brawley
San Diego
San Andreas Fault
Map copyright © 2006 David K. Lynch

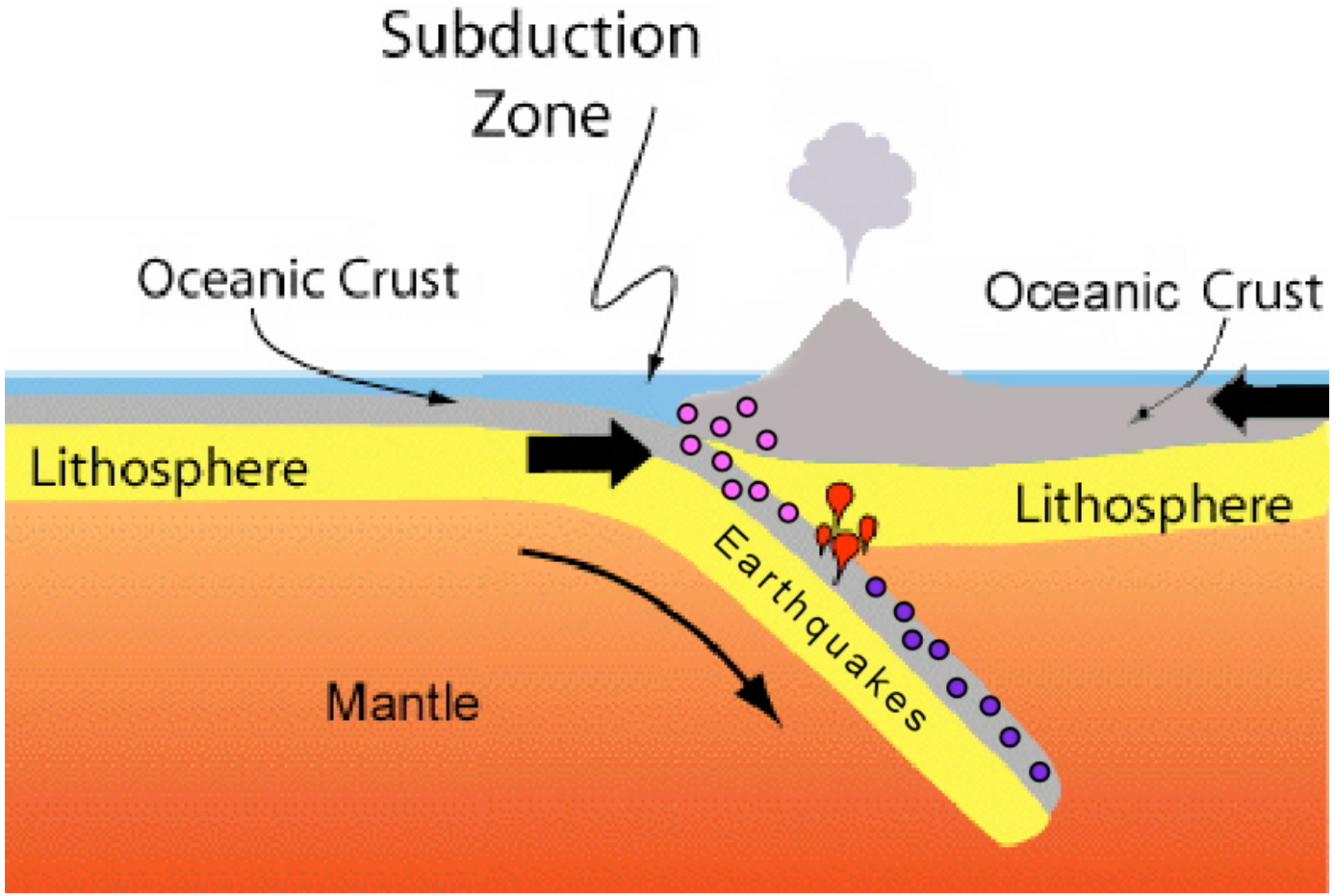


This fence, previously continuous and straight, was broken and parted by the 1906 San Francisco earthquake, the offset being 8 1/2 feet.

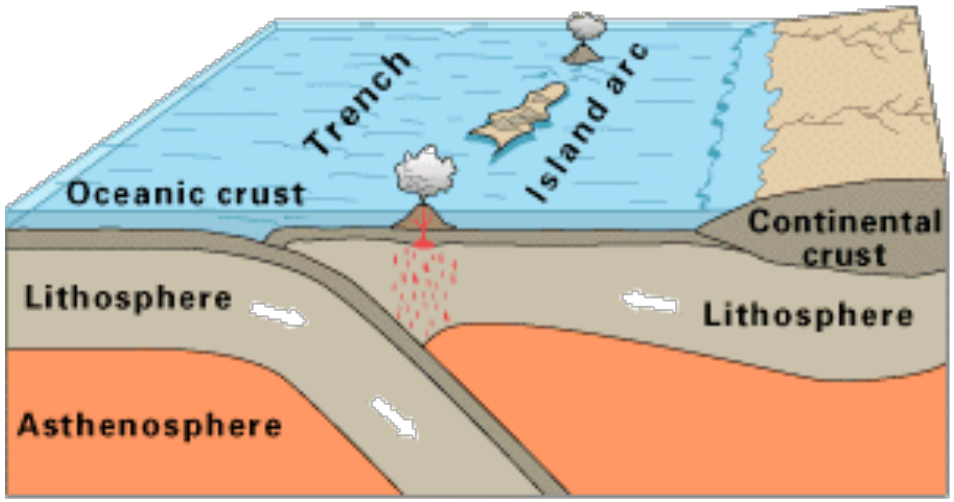
Transform boundaries cause hills and small mountains and over a long period of time can also change where places are located in relationship to one another.

Convergent Boundaries

Where two plates are pushing into each other and one goes underneath the other. This creates a *subduction zone*.

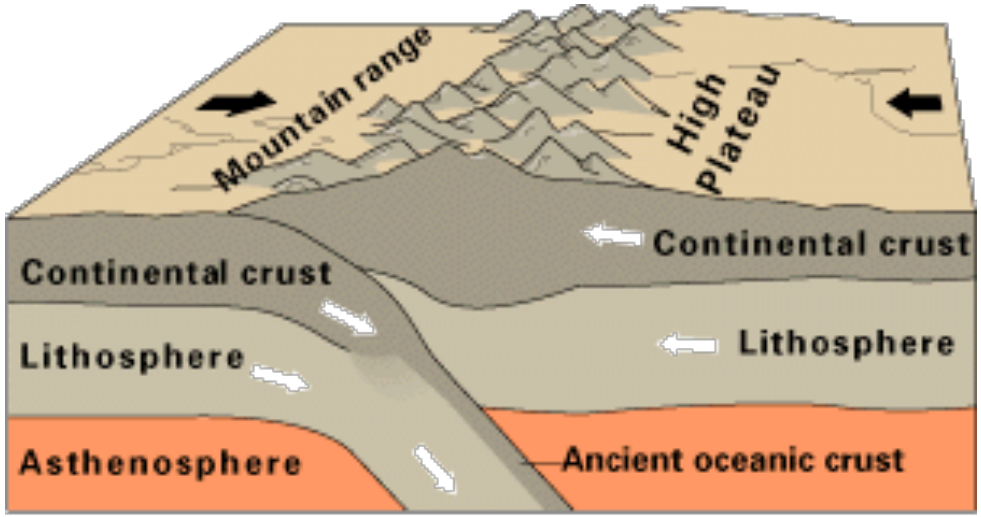


Depending on the type of crust that is colliding, different things happen:



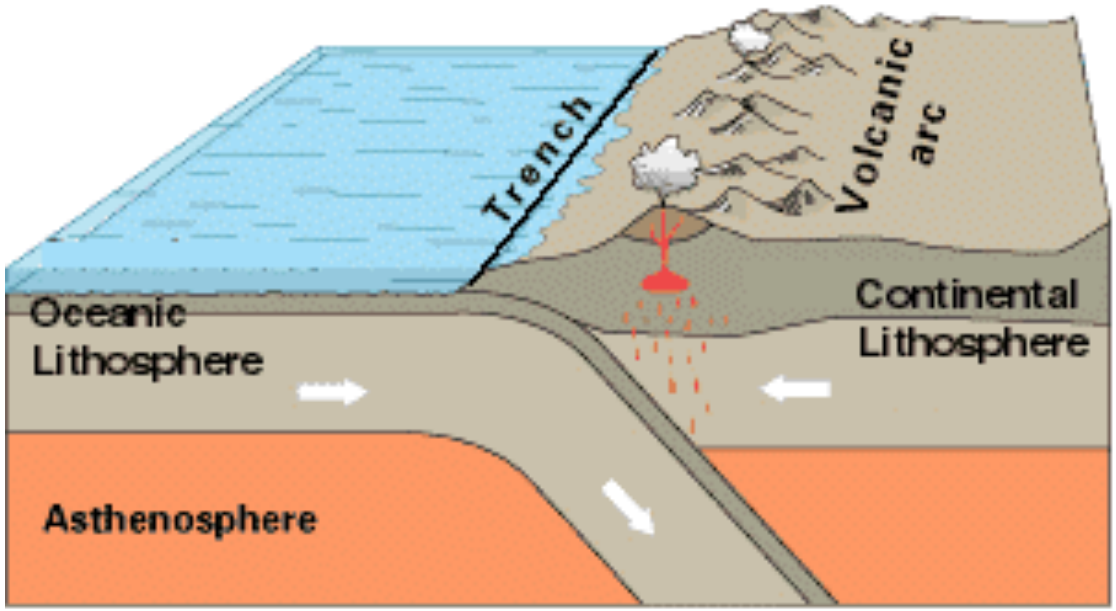
Oceanic-oceanic convergence

Ocean + Ocean = Islands, Volcanoes and Earthquakes



Continental-continental convergence

Continent + Continent = Mountains and Earthquakes

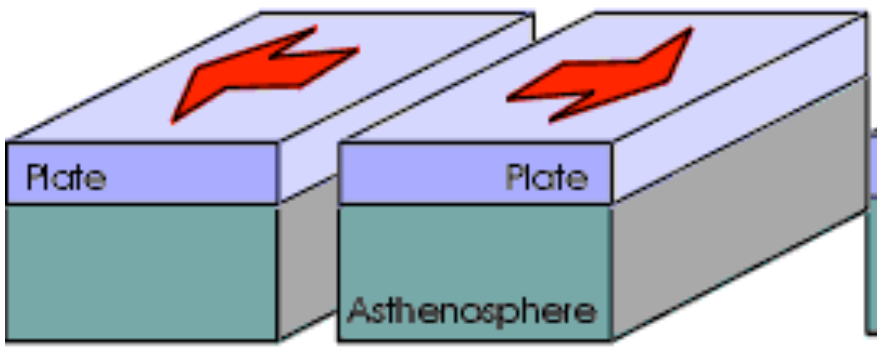


Oceanic-continental convergence

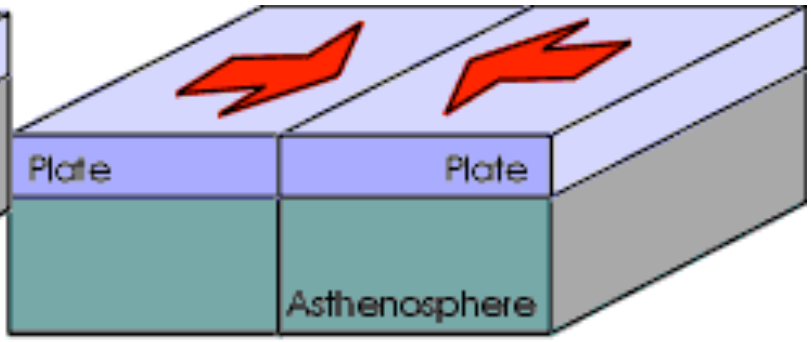
Ocean + Continent = Mountains, Volcanoes and Earthquakes

Demo:
http://www.learner.org/interactives/dynamicearth/slip2.html

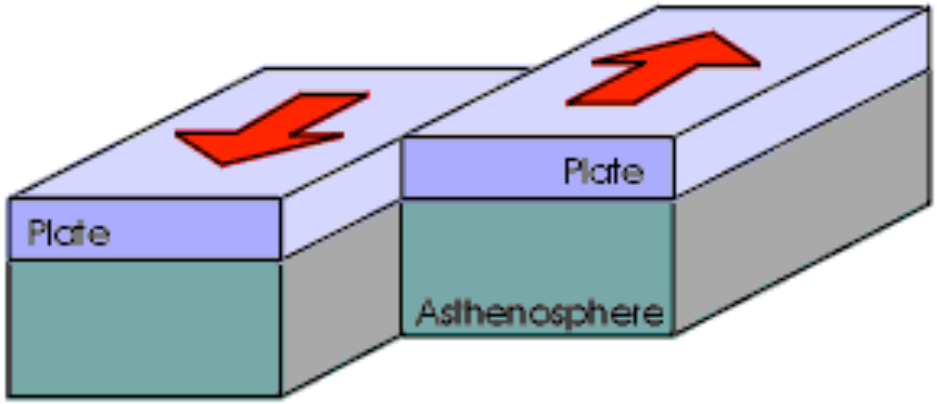
REVIEW:



Divergent



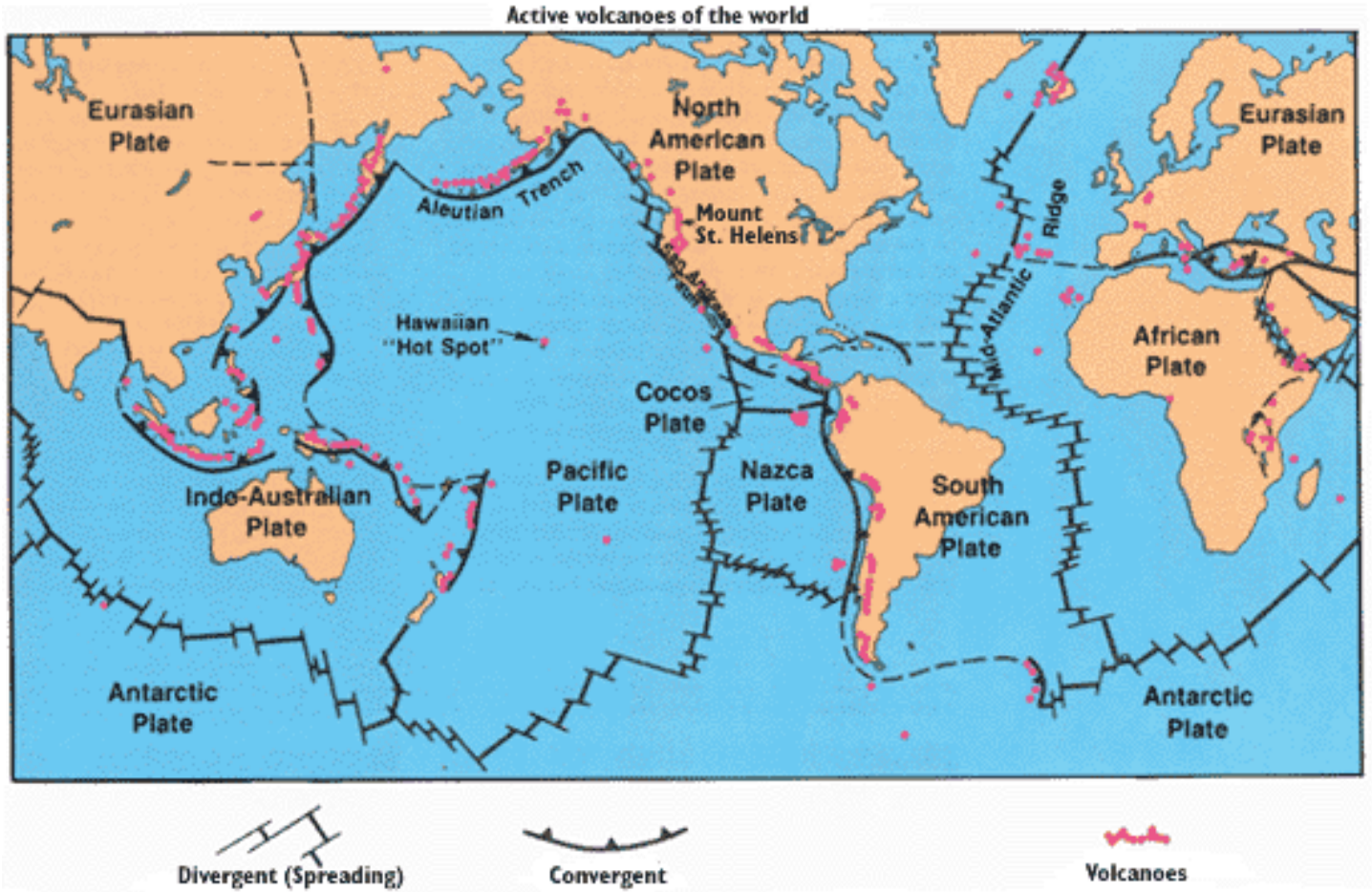
Convergent



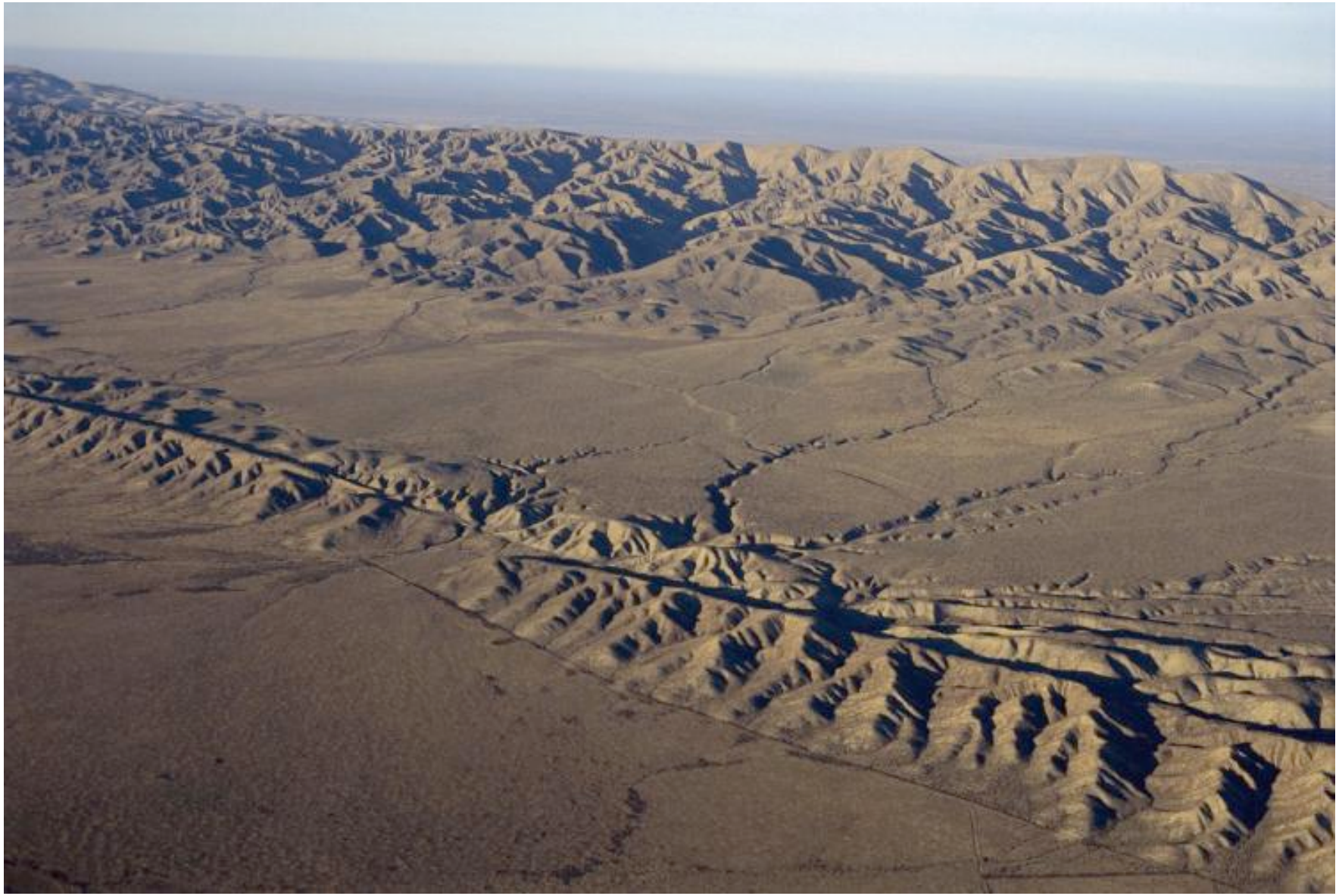
Transform

Fault:

The place where two plates meet or separate.



Example of a fault at a transform boundary:



San Andreas Fault, California

Example of a fault at a divergent boundary:

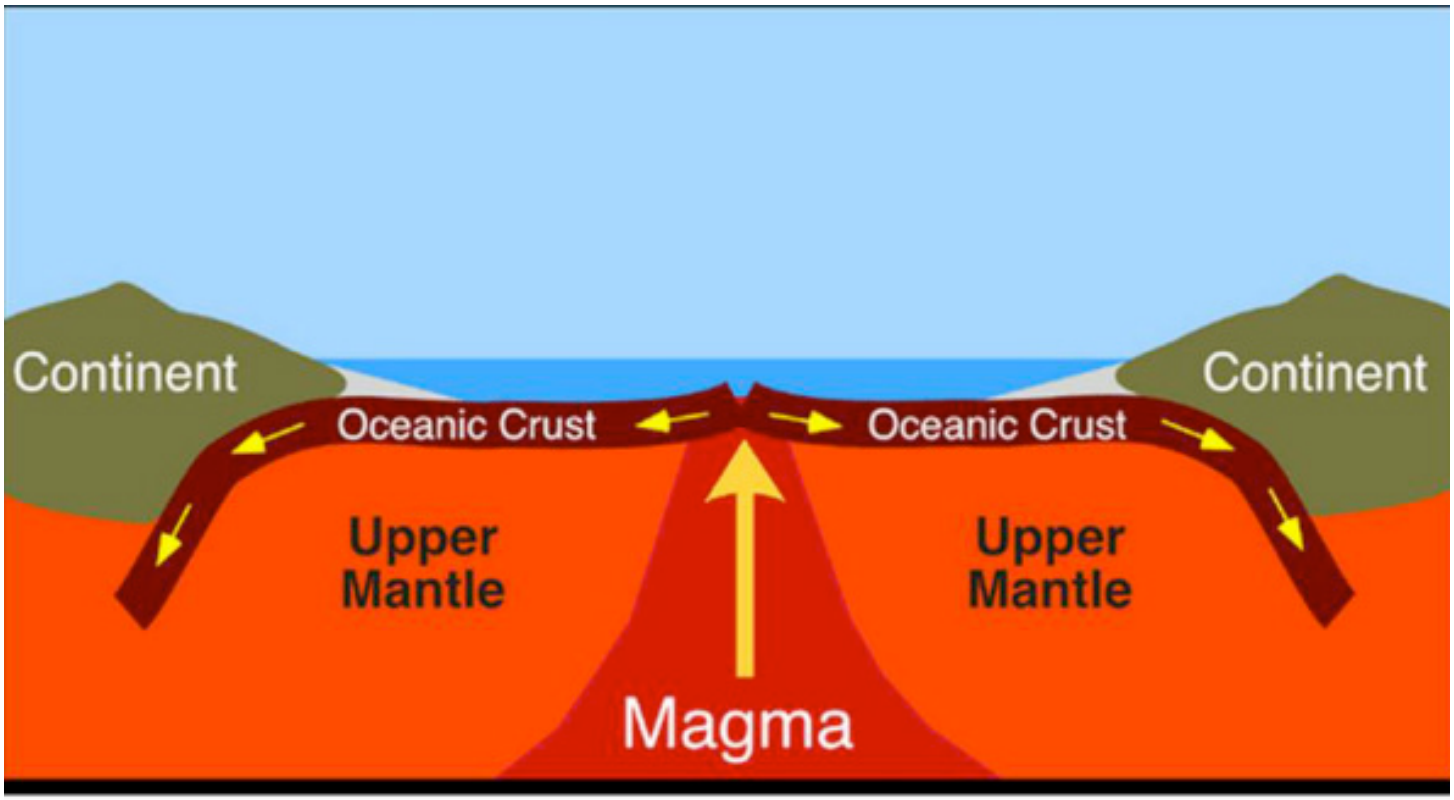
African Rift Valley

Example of a fault at a convergent boundary:

Himalaya Mountains

Follow-Up:

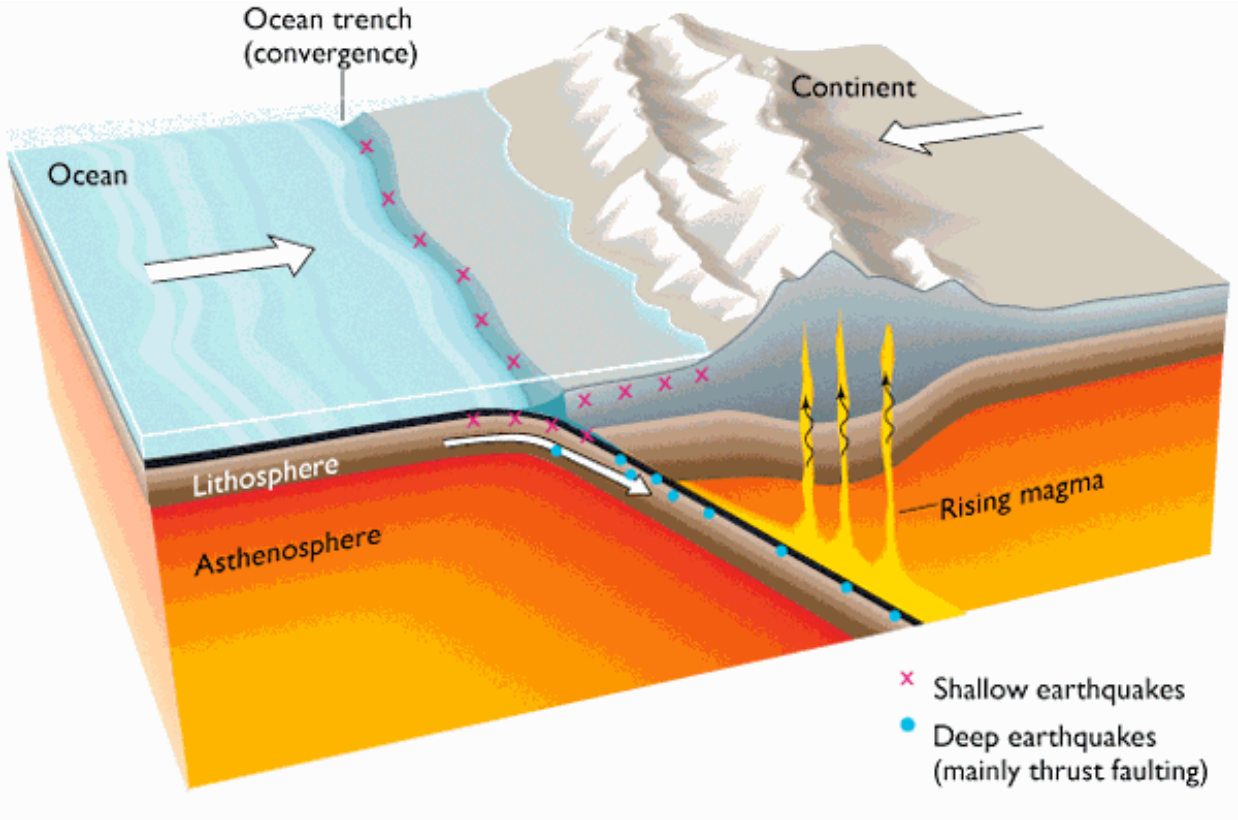
Where is new crust being made?



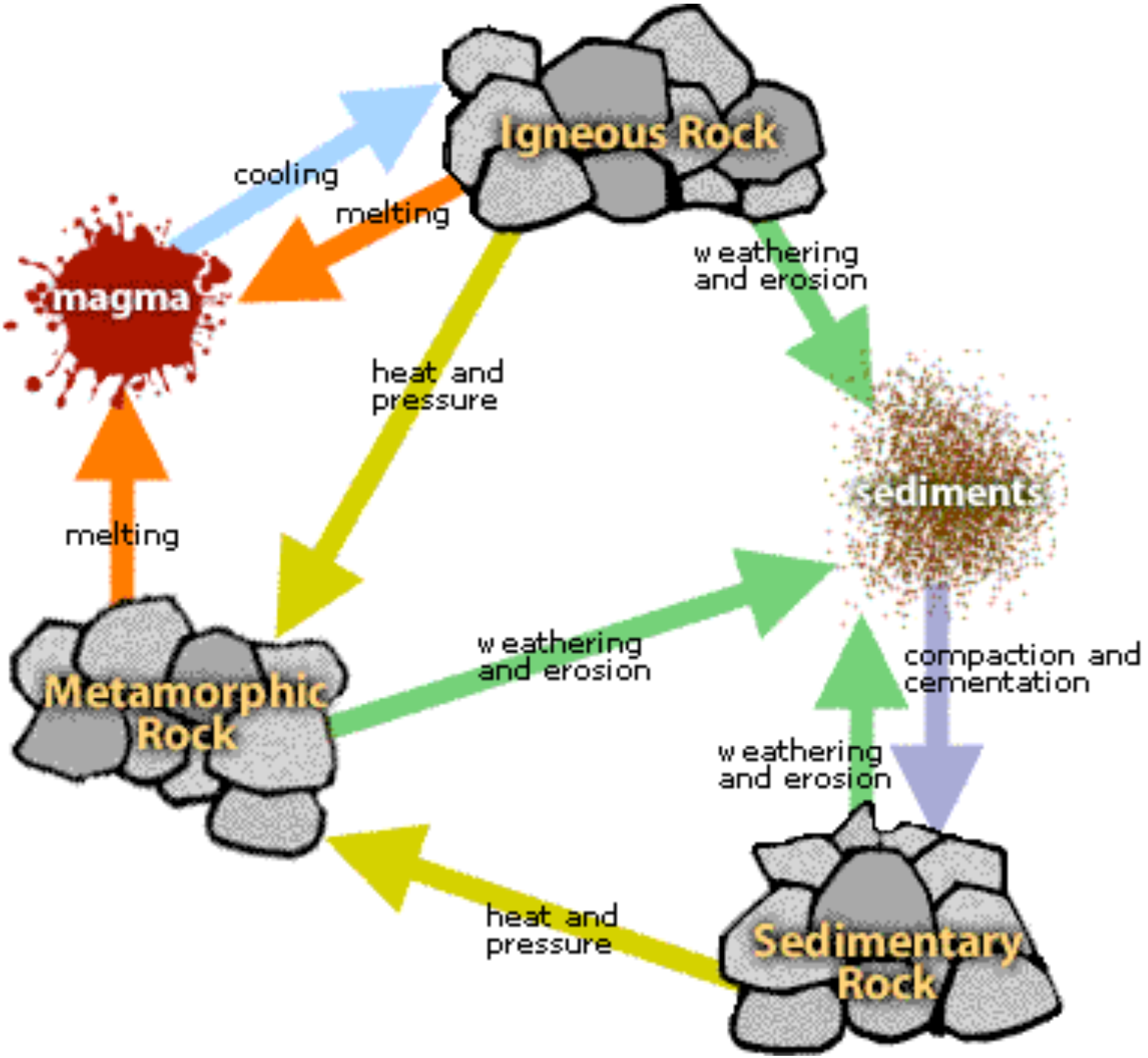
DIVERGENT BOUNDARIES

Follow-Up:

Where is older crust being destroyed?



SUBDUCTION ZONES
(Convergent Boundaries)


Igneous Rock
cooling
melting
magma
weathering
and erosion
heat and
pressure
sediments
melting
Metamorphic
Rock
weathering
and erosion
compaction and
cementation
weathering
and erosion
heat and
pressure
Sedimentary
Rock

Your Assignment:

Name: _____ Block: _____ Date: _____

What it is:

Draw a DETAILED, COLOR Diagram:

Divergent Boundary

How is Earth's crust being created, destroyed or changed here?

Describe what it looks like in words:

When you finish:

http://www.learner.org/interactives/dynamicearth/plate.html