

Warm-up Week 13 Day 1

1. **Describe** Alfred Wegener's "**Continental Drift**" hypothesis in your **own words**.
2. Give **4 pieces of evidence** that **support** the "Continental Drift" hypothesis.
3. What **problem** did Wegener's critics have with this hypothesis?

“Theory of Plate Tectonics”



9.2 & 9.3

Recall: Wegener's Hypothesis...


1. Continental Drift.
2. Continents move...
...Through Ocean Floor?!

Wrong.



Recall: LITHOSPHERE

–Divided into 7 “PLATES”

A world map illustrating tectonic plates. The map uses various colors to represent different plates and their boundaries. Red and orange lines indicate divergent boundaries (mid-ocean ridges), while green and yellow lines indicate convergent boundaries (subduction zones). The plates are labeled with numbers 1 through 7, corresponding to the text above. The map shows the Pacific Plate, North American Plate, South American Plate, African Plate, Eurasian Plate, Australian Plate, and Antarctic Plate.

Q: HOW do we explain the movement of plates?!

Theory of Plate Tectonics

Lithosphere:

1. Separate **plates**
2. **Move** around (~5 cm/year)
3. Movement creates earthquakes, volcanoes, mountains, and the CRUST itself.

Move? How!?



We Know...Plates Move!

“BOUNDARIES”

1. CONVERGENT

- Destroys Lithosphere



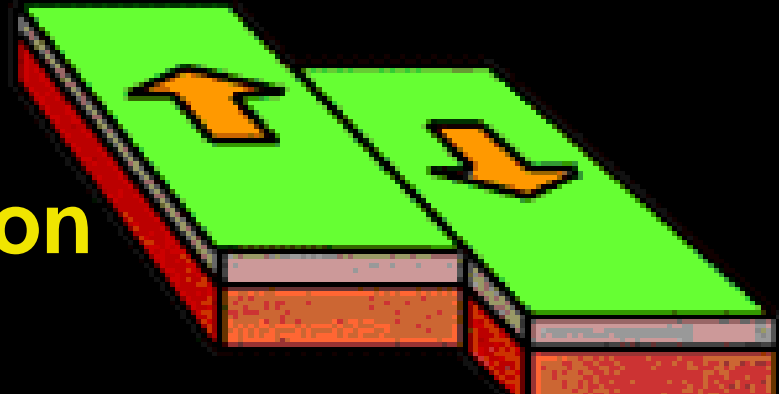
2. DIVERGENT

- Creates Lithosphere

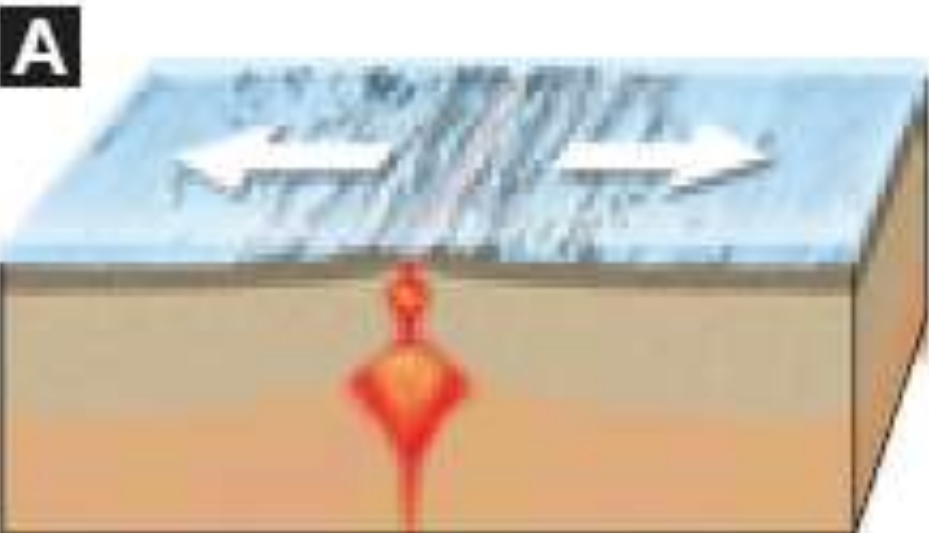


3. TRANSFORM

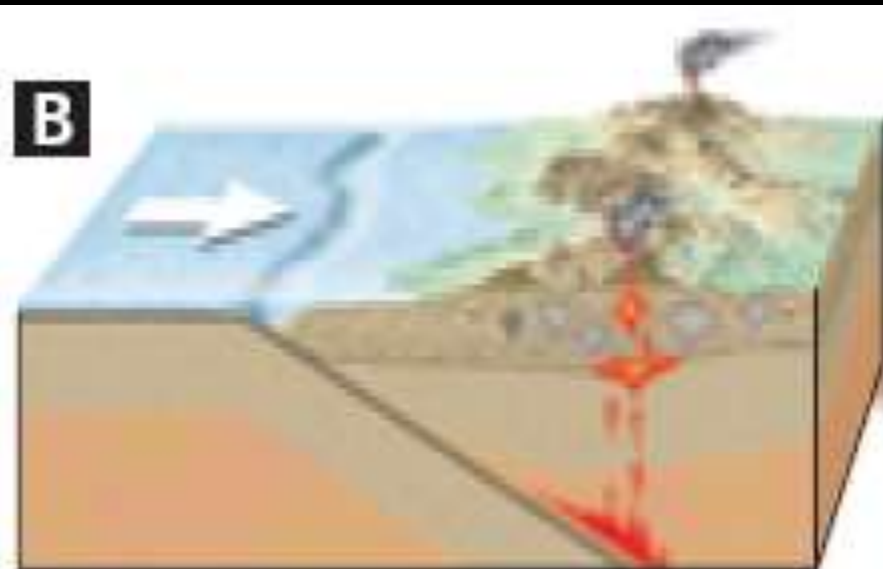
- No Destruction/Creation



Q: Creation or Destruction?...



Divergent boundary



Convergent boundary



Transform fault boundary

Convergent.



Subduction Zones:

- “Sub”-marine...below.
- **Destructive**
- Oceanic **crust** is **pushed down** into the **mantle**

Trench:

- Deep **canyon!**
- Made as **crust sinks**

Oceanic-Continental Convergence.

1. Oceanic Plate sinks.

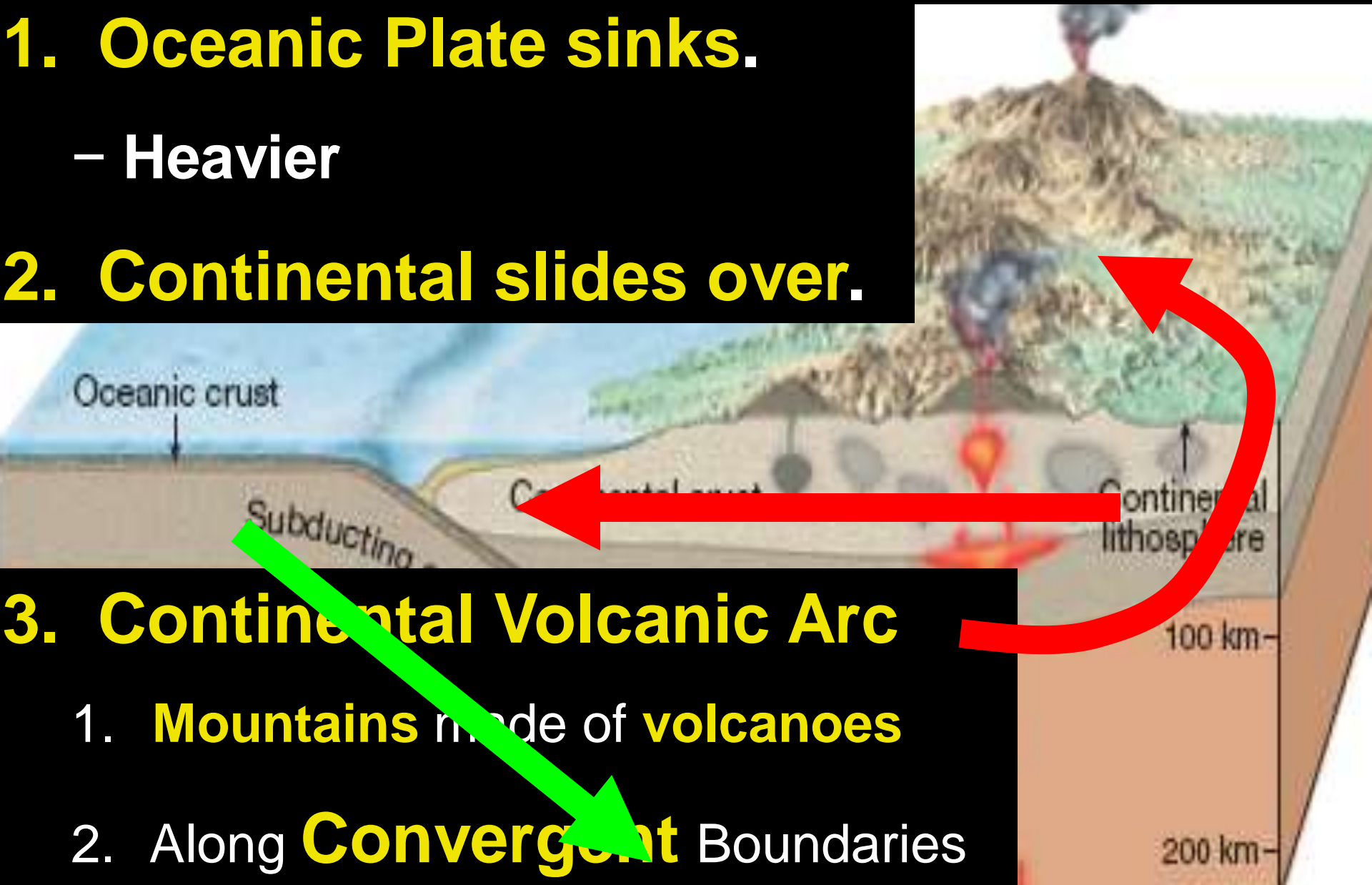
– Heavier

2. Continental slides over.

3. Continental Volcanic Arc

1. Mountains made of volcanoes

2. Along **Convergent** Boundaries



Oceanic-Oceanic Convergence

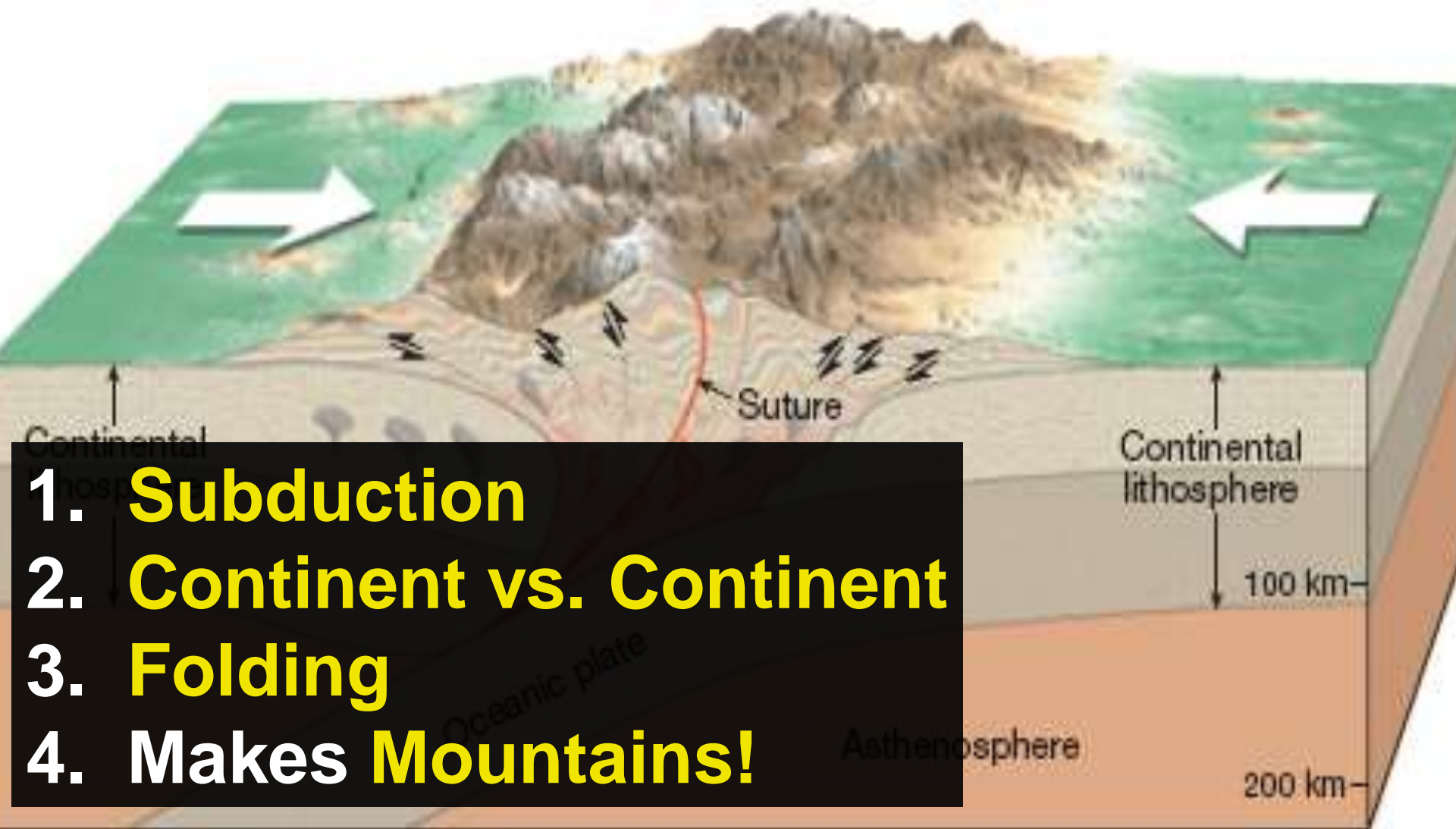
1. **Volcanoes!**
2. Become **Islands!**



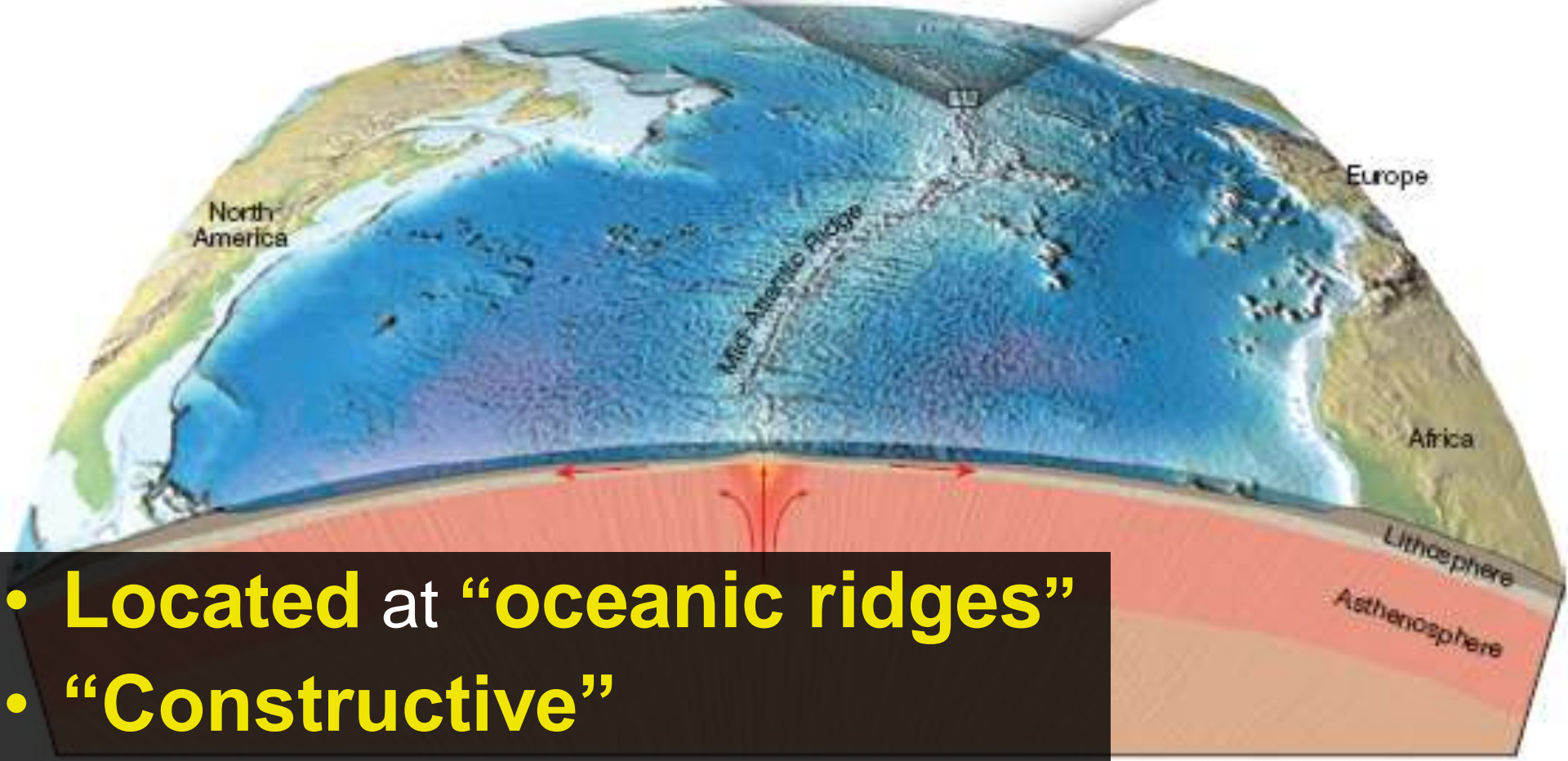
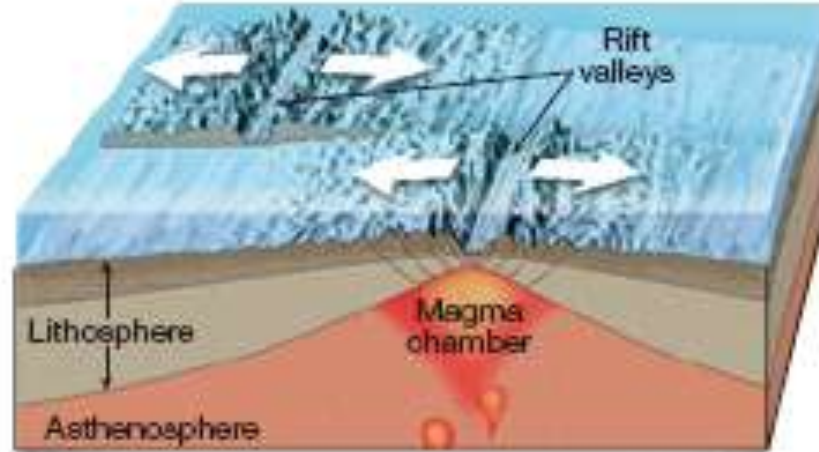
3. **Volcanic Island Arc!**

- newly formed **chain of volcanic islands**

Continental-Continental Convergence



Divergent



- Located at “oceanic ridges”
- “Constructive”

Transform **No Destruction, No Creation.**

