**Plate Tectonics**  Name:

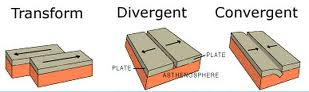
Unit 2: Tectonic Processes Period:

Geography 12

**Plate Tectonics**

* 1960s the theory of plate tectonics emerged.
* World is divided into several plates that are travelling on the upper part of the mantle.
* Convection currents propel plates 2-3 cm/ per year

**Types of Plate Movement**

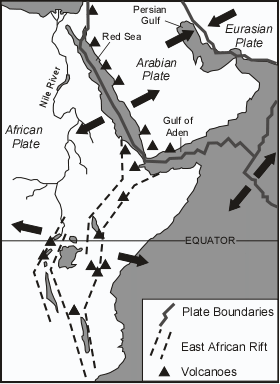
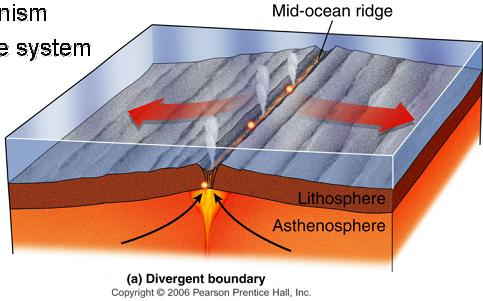


**Divergent Boundary**

* When 2 plates are moving away from each other.
* New lithosphere is formed.
* Occurs mostly on the ocean floor, called **mid-ocean ridges:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* **Example: Mid-Atlantic Ridge**
* The process that occurs at ocean ridges: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:** as plates move, new magma pushes up from the asthenosphere and fills the crack.
* The farther away from the ridge, **the older the rock.**

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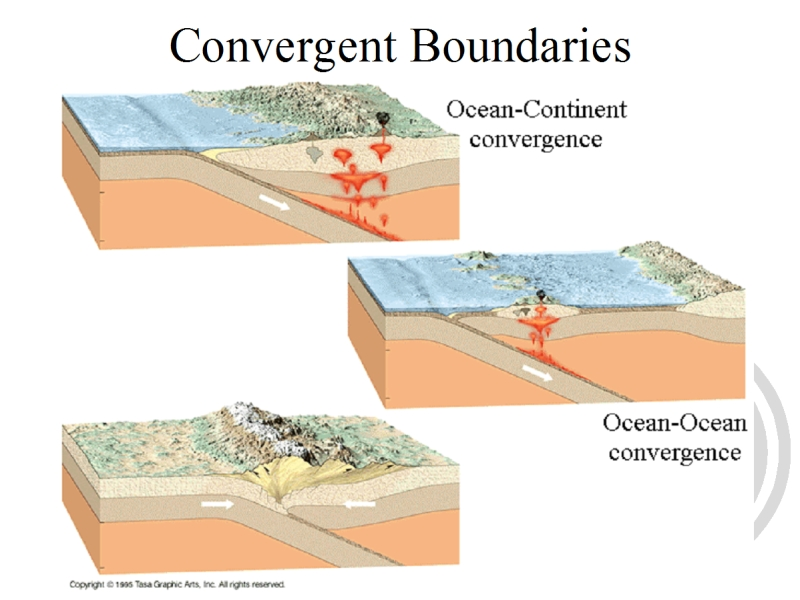
**African Rift Valley:**

* 10,000 km long
* new land created a few cm a year widening the valley
* Number of volcanoes: **Mt. Kilimanjaro**

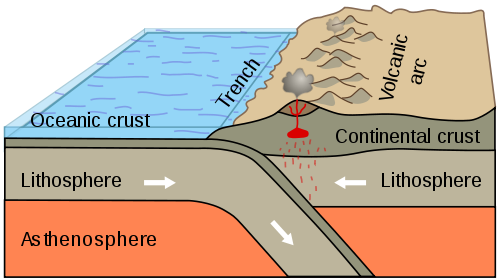
**Convergent Boundary**

**Three types of convergent boundaries:**

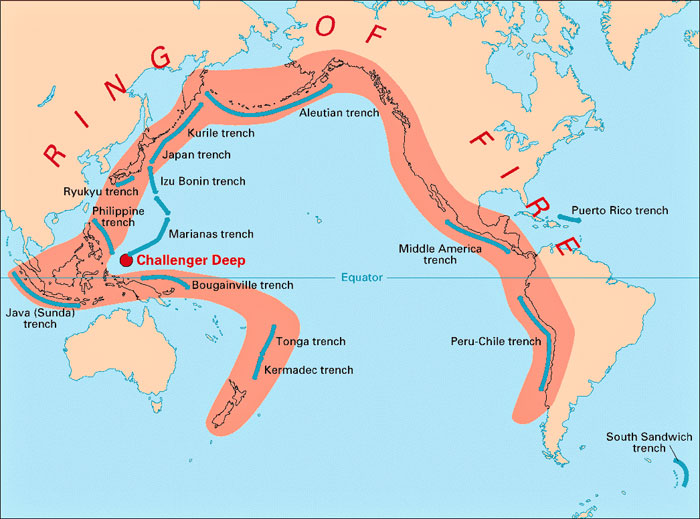
* When 2 plates move toward each other, one with a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** will eventually be forced down into the mantle.
* **Ocean plates have a higher density than continental plates**.
* When a plate is forced under the plate this zone is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



**1) Ocean – Continent Convergence**



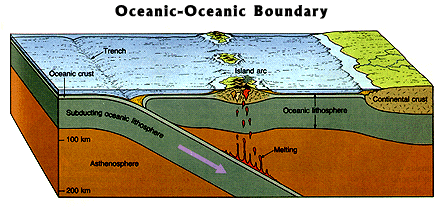
* oceanic plate will subduct along the leading edge of the continental plate and create deep, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Built up pressure will create a chain of volcanoes on the continent: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



* The Ring of Fire is a string of volcanoes and sites of earthquakes around the edges of the Pacific Ocean.
* Roughly 90% of all earthquakes occur along the Ring of Fire.
* The ring is dotted with 75% of all active volcanoes on Earth.

**2) Ocean – Ocean Convergence**

* Two plates colliding that have roughly the same density.
* One will eventually descend into the mantle and excess material will form a string of volcanic islands known as **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

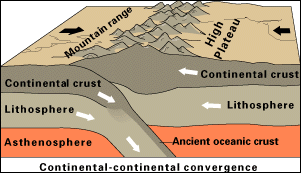
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**3) Continent to Continent Convergence**

* Colliding plates have similar densities.
* They buckle upward 🡪 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** to form **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

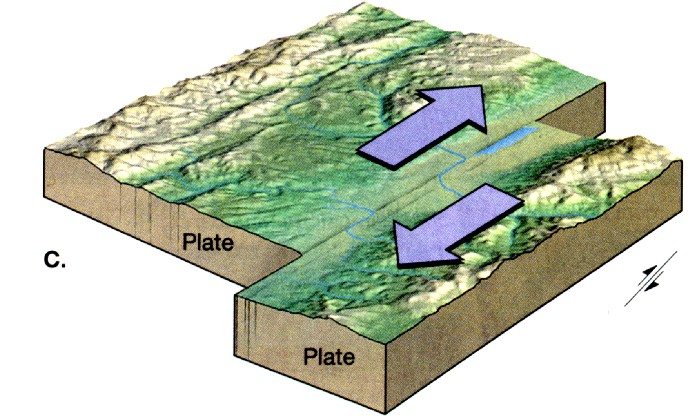
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* **Example: Himalayan Mountains**

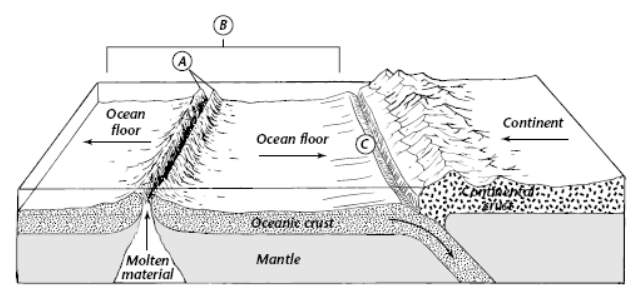


**Transform Boundary**

* When 2 plates slide horizontally past each other.
* Plates often get stuck 🡪pressure builds.
* One plate will jerk forward, releasing built up pressure 🡪 results in **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

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**Sea Floor Spreading Worksheet**

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Use the figure above to answer the following questions.

1) What feature of the ocean floor is shown at A? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) Describe the process shown occurring at B, and explain what results from this.

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3) What happens to old oceanic crust as new molten material rises from the mantle?

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5) What process is shown occurring at C, and why does it occur?

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6) Where would you expect to find the “newest” rock on the ocean floor?

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