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PLATE TECTONICS NOTES

What is Plate Tectonics?

The Earth's crust and upper mantle are broken into sections called _____

Plates move around on top of the _____ like rafts

The Crust

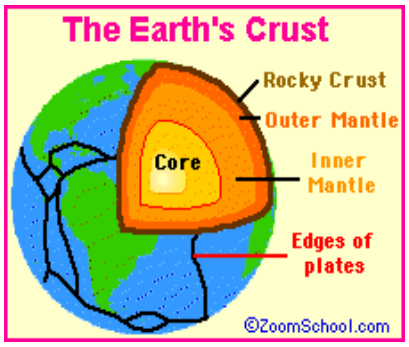
_____ layer 5 – 100 km thick Made of _____, _____, _____

The Mantle

Layer of Earth between the _____ and the _____

Contains most of the Earth's _____ is denser than the _____

Has more magnesium and less aluminum and silicon than the crust



The Core

Below the _____ and to the center of the Earth

Believed to be mostly _____

What is the Lithosphere?

Lithosphere = _____

Less _____ than the material below it so it "_____"

What is the Asthenosphere?

Asthenosphere = _____

The plates of the lithosphere float on the asthenosphere

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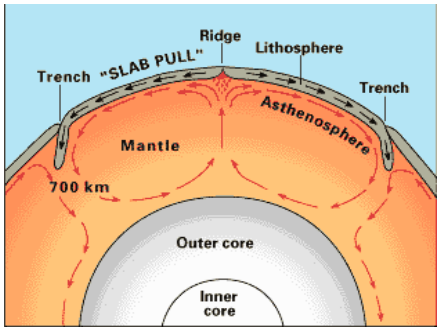
2 Types of Plates

_____ - plates below the oceans

_____ - plates below the continents



How do Plates Move?

Plates move because there is a slow movement of hot, softened mantle that lies below the rigid plates

Plate Boundaries

_____ Boundaries = Boundary between two plates that are moving apart or rifting

Rifting causes _____ _____

Most divergent boundaries happen on the _____ _____

Features of Divergent Boundaries

Mid-ocean ridges rift valleys fissure volcanoes

Sea floor spreading

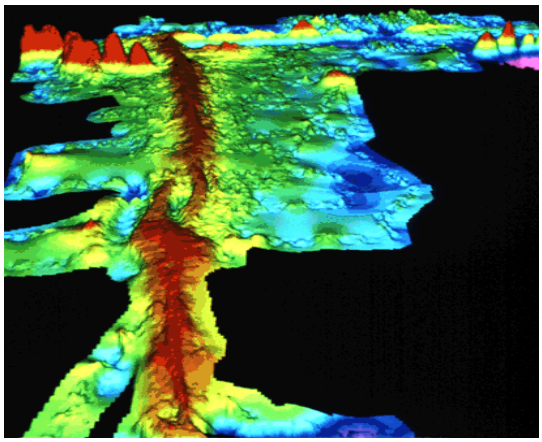
Large _____ begin to crack and split apart. The gaps fill with _____ and small seas become _____.

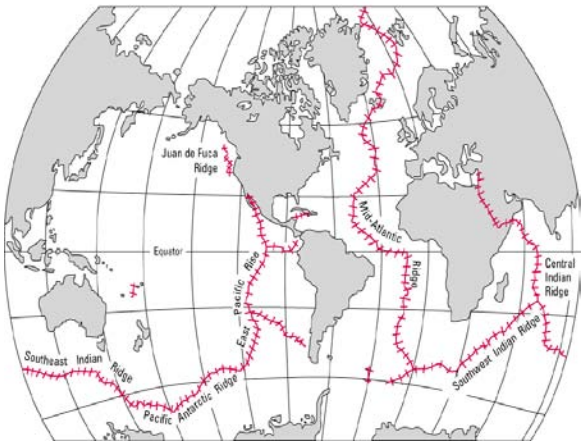
The mid ocean ridge continues to produce new _____

Mid Ocean Ridges – underwater _____ that run through the Earth's Basins

_____ rises to the surface and solidifies

New crust forms and older Crust is pushed farther away from the ridge





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_____ = Boundaries between two plates that are colliding

There are 3 types of convergent boundaries

Type 1 **Continent – Ocean Collision**

Ocean plate colliding with a **LESS DENSE** continental plate

_____: where the more dense plate slides under the less dense plate

The <u>denser oceanic plate sinks (subducts)</u> beneath the less-dense continental crust

_____ occur at subduction zones

Type 2 **Ocean – Ocean Collision**

Ocean plate colliding with another ocean plate

The _____ dense plate slides under the _____ dense plate creating a subduction zone called a _____

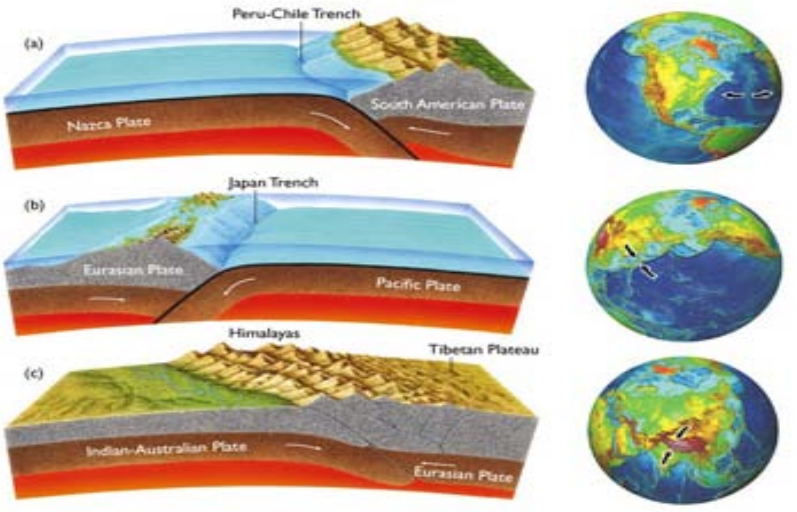
Type 3 **Continent – Continent Collision**

A continental plate colliding with another continental plate

When this happens, collision zones appear. This is where land folds and faulted mountains form

_____ ~ Boundary between two plates that are sliding past each other

_____ happen along faults



Convergent Boundaries (Subduction)

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_____ Two tectonic plates slide past one another

The San Andreas fault is an example of a _____ boundary

A fault is a break in a _____ across which there is observable _____

Types of Faults:

1.

2.

3.

Two Causes of Plate Tectonics

- Hot _____ in the Earth moves toward the surface, cools, get denser, and then sinks again with the pull of gravity. This creates _____ in the _____ which causes the plates to move.
- When plates move together the _____ collides. The heat and pressure make metamorphic _____. The rocks push and fold into high _____.

So…is Earth still growing?

Dense heavy oceanic crust can be subducted below less denser continental crust. The friction melts the rock and _____ rises through the _____to form new _____