

### Lesson: Plate Tectonics

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<b>I</b>	<b>INTELLIGENT</b>
	UNDER 15 REQUIRES TEACHER ASSISTANCE

STRONG EARTH SCIENCE LANGUAGE, DETAILED DIAGRAMS, AND SUPER ANSWERNESS

- I can describe what is believed to make the plates move?
- I can name proof that the Earth's plates have moved over time
- I can describe age & heat patterns located at the Mid Ocean Ridges

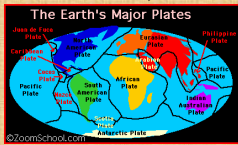
### What is Plate Tectonics?



<http://www.nasa.gov/content/000001main>

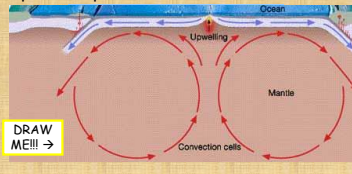
### Plate Tectonic Theory

- The Earth's lithosphere is broken into sections called plates



### What makes these Plates Move?

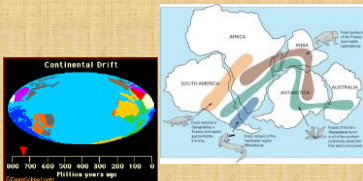
- Most accepted theory is that convection currents in the **asthenosphere** drag or push the plates.



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### Proof

- Fossils and rocks correlate (match) on opposite sides of the ocean



- Earthquakes, Volcanoes, & Tsunamis
- Rock Cycle
- Weather and Climate Changes
- Major landscape features



- Continents look like they fit together like puzzle pieces
- Ocean crust is younger than the continental crust

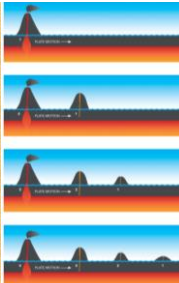


### PANGAEA



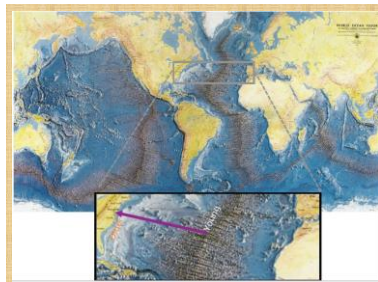
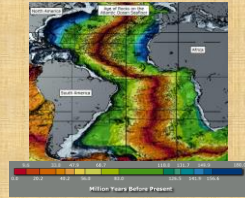
- Hot spots occur where rising magma from the mantle remains stationary while plates move over it, forming progressively older volcanoes
- Example:

Hawaiian Islands



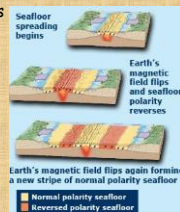
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- Igneous rocks close to the Mid-Ocean Ridge are younger than rocks further away
- This is the same for the heat flow



- Reversal of Earth's Magnetic Polarity:** Earth's magnetic poles flip flop (occurs in thousands of years)
- Magnetic minerals in the basalt line up and point to the correct pole

Where is the true North Pole?



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The positions of the continents 30 million years from now?

Notice that North America is moving to the North West!



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