Plate Tectonics

Overview: Students learn about the cause of Plate Tectonics.

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Team Engagement Mini Project.

C. Dianne Phillips.

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Adrian Ruiz.

Tayler Mounce

Arlet Jimenez
INTRODUCTION.

In this project we are going to learn about Plate Tectonics and its basic definitions that come along with them some of this are Divergent Plate Boundary, Convergent Plate Boundary, Transform Plate boundary, and Hotspot just to name a few. At the end of this lesson students will be able to define and have an understanding of plate tectonics and its components, the process and dynamics of tectonic plate movement and also identify the type of boundaries and other basic parts of the earth’s structure.

DEFINITIONS.

- **Plate Tectonics:** The lithosphere of the earth is divided into a small number of plates which float on and travel independently over the mantle and much of the earth's seismic activity occurs at the boundaries of these plates.

- **Divergent plate Boundary:** At divergent boundaries new crust is created as two or more plates pull away from each other. Oceans are born and grow wider where plates diverge or pull apart.
- **Convergent Plate Boundary**: Here crust is destroyed and recycled back into the interior of the Earth as one plate dives under another. These are known as Subduction Zones - mountains and volcanoes are often found where plates converge.

- **Transform Plate Boundary**: Transform-Fault Boundaries are where two plates are sliding horizontally past one another. These are also known as transform boundaries or more commonly as faults. Most transform faults are found on the ocean floor.

- **Hotspot**: A volcanic area that forms as a tectonic plate moves over a point heated from deep within the Earth's mantle. The source of the heat is thought to be the decay of radioactive elements.
- **Mantle:** It plumes originate some 1,800 miles beneath the earth’s surface, where the liquid-metal outer core meets the lowermost part of the rocky mantle.

- **Lithosphere:** Rigid, rocky outer layer of the Earth, consisting of the crust and the solid outermost layer of the upper mantle. It extends to a depth of about 60 mi (100 km). It is broken into about a dozen separate, rigid blocks, or plates.

- **Asthenosphere:** Zone of the Earth’s mantle lying beneath the Lithosphere, believed to be much hotter and more fluid than the lithosphere.

- **Continental Drift:** Large-scale movements of continents over the course of geologic time. The first complete theory of continental drift was proposed in 1912 by Alfred Wegener, who postulated a single supercontinent, which he called Pangea.
ﬂ Seafloor Spreading: Theory that oceanic crust forms along submarine mountain zones, known collectively as the Oceanic Ridge system, and spreads out laterally away from them.

Oceanic Ridge: Continuous, submarine mountain chain extending approximately 50,000 mi (80,000 km) through all the world's oceans, separating them into distinct basins.

Subduction Zone: Oceanic trench area in which, according to the theory of Plate Tectonics, the seafloor underthrusts an adjacent plate, dragging the accumulated trench sediments downward into the Earth's upper mantle.

REFERENCES.

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