Name: _____ **Date:** _____

Wrangle Tectonic Giants: A 5th Grade Geology Chef's Challenge

Students analyze planetary crust movement by comparing lithospheric plate interactions to kitchen science and thermal convection currents.

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1. If you were simulating a subduction zone using a kitchen model, why would a 'cold' piece of graham cracker sink beneath a 'warm' piece of marshmallow fluff?

A. The cracker is denser than the fluff
B. The fluff is under more pressure
C. The cracker is moving significantly faster
D. Friction causes the fluff to evaporate

2. The process of 'Seafloor Spreading' acts like a giant conveyor belt, creating new crust at divergent boundaries and recycling old crust at convergent boundaries.

A. True
B. False

3. Engineers in Japan often use 'Base Isolation' to protect buildings during earthquakes. This technology works by separating the building from the _____.

A. Atmosphere
B. Tectonic Plate
C. Foundation
D. Hydrosphere

4. The 'Ring of Fire' is a horseshoe-shaped zone in the Pacific Ocean. What is the primary reason for the high frequency of explosive volcanoes in this specific region?

A. Extreme transform boundary friction
B. The abundance of underwater salt mines
C. The presence of many subduction zones
D. The Earth spinning faster at the equator

5. The Hawaiian Islands were formed by a 'Hotspot,' which means the volcano is located directly on a plate boundary.

A. True
B. False

6. When two continental plates of equal density collide, they cannot subduct. Instead, the crust crumples upward to form _____.

A. Deep ocean trenches
B. Folded mountain ranges
C. New oceanic crust

D. Magnetic anomalies

7. Which instrument would a geologist use to measure the 'wiggles' or vibrations traveling through the Earth's crust during a seismic event?

A. Barometer
B. Anemometer
C. Seismograph
D. Spectroscope

8. Magma is molten rock found beneath the surface. Once it erupts through a volcano and reaches the surface, it is renamed _____.

A. Pumice
B. Lava
C. Basalt
D. Obsidian

9. What is the primary engine that drives the movement of Earth’s massive tectonic plates?

A. The moon's gravitational pull
B. Convection currents in the mantle
C. Strong solar winds from the sun
D. The weight of the world's oceans

10. Transform boundaries, where plates slide past each other, are the most common locations for the formation of large volcanoes.

A. True
B. False