

Name: _____ Date: _____

Answer Key: Crack the Crust: Tectonic Trial for Third Grade

How does the ground beneath your feet change shape? Analyze plate movements and seismic shifts through this multi-format challenge.

1. Imagine you are an explorer who finds a row of mountains that look like giant folded blankets. What most likely caused this to happen?

Answer: B) Two plates crashed together and pushed the land up

When two tectonic plates collide (convergent boundary), they often crumple and fold the Earth's crust upward to form mountain ranges.

2. When two plates slide past each other sideways, they often get stuck. When they finally jerk forward, they release energy called an _____.

Answer: C) Earthquake

Earthquakes occur along transform boundaries when plates snap forward after being stuck due to friction.

3. True or False: Most volcanoes and earthquakes happen in the middle of plates rather than at the edges where they touch.

Answer: B) False

The majority of geological activity occurs at plate boundaries, which are the 'cracks' or edges where plates interact.

4. The Earth's outer layer is broken into giant pieces called tectonic plates. What is the best way to describe how these plates move?

Answer: B) They move about as fast as your fingernails grow

Tectonic plates are constantly moving, but they move very slowly—usually only a few centimeters per year.

5. If you find a new island in the ocean made of hardened black rock, it was likely created by an underwater _____.

Answer: D) Volcano

Volcanic eruptions release magma that cools and hardens into rock, often forming new land or islands over time.

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6. True or False: Scientists can use special tools to measure exactly how much the ground moves during a tremor.

Answer: A) True

Seismographs are instruments used by scientists to measure the strength and duration of the vibrations caused by earthquakes.

7. If two plates are moving away from each other (divergent), what is most likely happening in the gap between them?

Answer: B) Melted rock rises up to create new crust

At divergent boundaries, magma rises from beneath the crust to fill the gap, cooling to form new seafloor or land.

8. The deep, hot melted rock found underground before it erupts is called _____.

Answer: B) Magma

Melted rock is called magma when it is beneath the surface; once it breaks through to the surface, it is called lava.

9. True or False: Earthquakes only happen on land and never happen under the ocean.

Answer: B) False

Earthquakes happen wherever plate boundaries exist, including under the ocean, where they can sometimes trigger tsunamis.

10. Which of these is a way that a volcano can quickly change the landscape for plants and animals?

Answer: C) By covering the area in ash and liquid rock

Volcanic eruptions can reshape the land immediately by depositing layers of ash and lava, which eventually breaks down into rich soil.