How Plates Affect Our Planet: Earthquakes

This text is provided courtesy of OLogy, the American Museum of Natural History's website for kids.

Earthquakes can cause the ground to shake and crack apart. Earthquakes can be very powerful, and if they occur in or near areas where people live, they can make buildings collapse, bridges sway, and roads buckle.

But not all earthquakes are powerful enough to cause damage. In fact, earthquakes are happening all the time, on land and in the ocean. Most are so small that people don't even feel them.

An earthquake is the sudden movement of the Earth's crust. Earthquakes occur along fault lines, cracks in the Earth's crust where tectonic plates meet. They occur where plates are subducting, spreading, slipping, or colliding. As the plates grind together, they get stuck and pressure builds up. Finally, the pressure between the plates is so great that they break loose. Depending on how much pressure has built up, the ground may tremble slightly or shake forcefully.

Scientists describe the intensity of an earthquake using the Richter Scale. It measures earthquakes on a scale of 1 to 10. People barely feel a magnitude 3 earthquake, and windows might rattle at magnitude 4. A magnitude 6 earthquake is considered major, causing houses to move and chimneys to fall. The largest earthquake on record had a magnitude of 9.5.

An Alaskan earthquake caused the ground to crack apart.
Photo Credit: USGS

This highway in California collapsed during an earthquake.
Photo Credit: USGS

Name: _____ Date: _____

1. What is an earthquake?

2. What causes an earthquake to happen?

Support your answer with evidence from the text.

3. What is the main idea of this text?

4. Contrast the effects of an earthquake of low intensity with the effects of an earthquake of high intensity.

Support your answer with evidence from the text.