**MEASURING EARTHQUAKES**

Recording Earthquake Seismic Waves

Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**VS**

Locating an Earthquake

-Scientists analyze the arrival times of the \_\_\_\_\_\_\_\_ waves and the \_\_\_\_\_\_ waves with a seismograph.

The longer the time between their arrivals = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Measuring Earthquakes

Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**1.** measures earthquake strength by measuring the amount of ground motion created. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

**2.** measures Earthquake strength based on 1. \_\_\_\_\_of the area the fault moved. 2. \_\_\_\_\_\_\_\_\_ the fault blocks moved 3. How \_\_\_\_\_\_\_\_ the rocks are.

\*\* It uses a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ equation.

Currently- Scientists have developed far-more sensitive seismometers along with faster computers; allowing them to record more seismic signals than was possible in the 1930's, when the Richter magnitude was developed.

**9.0 and above** — Causes complete devastation and large-scale loss of life.  
**7.0** — It is hard to keep your balance. The ground cracks. Roads shake. Weak buildings fall down. Other buildings are badly damaged.  
**5.0** — If you are in a car, it may rock. Glasses and dishes may rattle. Windows may break.  
**3.0** — You may notice this quake if you are sitting still, or upstairs in a house. A hanging object, like a model airplane, may swing.  
**2.0** — Trees sway. Small ponds ripple. Doors swing slowly. But you can't tell that an earthquake is to blame.  
**1.0** —You can't feel them

Definition: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

based on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from earthquake. It does \_\_\_\_\_\_\_\_ have a mathematical basis.

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| --- | --- | --- |
| **Intensity** | **Shaking** | **Description/Damage** |
| II | Weak | Felt only by a few persons at rest, especially on upper floors of buildings. |
| VI | Strong | Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight. |
| IX | Violent | Damage considerable/great in buildings, with partial collapse. Buildings shifted off foundations. |
| X | Extreme | Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent. |

**VS**

Analyzing Seismograms

**SEISMOGRAPH**

**SEISMOGRAM**

MAGNITUDE

Richtor Scale

Moment Magnitude Scale

INTENSITY

Mercalli Scale