**Recording Earthquake Movement: Making a Seismograph**

**Lesson Summary**

Students learn about seismology by using a sample seismograph constructed out of common classroom materials.

**Materials**

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| Empty cereal box  Cardboard sheet (same size as cereal box)  2 pieces of string (about 1 foot long)  Paper tape roll (for a calculator or receipt machine)  Small paper cup  Pennies (or other materials for weight such as marbles, gravel, etc.) | Felt-tip pen  Scissors  Sharp knife  Hole punch  Clay  Small stick |

**Next Generation Science Standards: Performance Expectations and Crosscutting Concepts**

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| **Performance Expectations** | **Crosscutting Concepts** |
| **2-ESS1-1.** Use information from several sources to provide evidence that Earth events can occur quickly or slowly.  **4-PS4-1.** Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.  **MS-ESS2-2.** Construct an explanation based on evidence for how geoscience processes have changed Earth’s surface at varying time and spatial scales.  **MS-PS4-1.**  Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.  **HS-ESS2-2.** Analyze geoscience data to make the claim that one change to Earth’s surface can create feedback(s) that cause changes to other Earth systems. | https://lh6.googleusercontent.com/rW8NLn-oj2bL68pYsYl07_Bb0xnfB1av0HiWHeIQ5dib1heRV3E4SQGkR--byVbICn8tZO00fQdZcYRPsbGB0tdxtkD6DgEbHqlNia8jQXd1fPZBRZ1L-HJHPrZlT7Ns |

**Teacher Background Information**

* The Cascadia Subduction Zone is a 600-mile long earthquake fault stretching offshore along the coast of Oregon that is capable of creating some of the largest earthquakes and tsunamis on Earth as well as potentially the largest national disaster the U.S. has ever seen.
* So far there have been over 300 earthquakes in the past year in Oregon.
* Approximately 17 people have lost their lives due to earthquakes in the Pacific Northwest.
* Since 1872 there have been 20 damaging earthquakes in WA and OR.