Note: This is a computer-based station.

Station 2: Magnitude Math

The goal of this station is to apply understanding of logarithmic values to compare earthquake magnitudes.

Review student sheet before starting station activities.

Step 1: Watch a Video Segment

- Watch the video segment: Logarithms: Logarithms: Seismic Activity [1:15-04:19].
- Complete the vocabulary charts for the words *magnitude* and *amplitude.*

Step 2: Watch a Video Segment

- Watch the video segment: http://www.khanacademy.org/math/algebra/logarithms-tutorial/logarithm_properties/v/richter-scale# to learn about the logarithmic Richter and Moment Magnitude Scales used to measure earthquakes.

Step 3: Compute Differences in Magnitude

- Cut apart the cards on the handout "Compute Differences in Magnitude."
- Shuffle the cards and place them face down.
- Select two cards and, using the map to determine the magnitude of each earthquake, subtract the difference in their magnitude scales.
- Use the online calculator found at http://web2.0calc.com/ to compare the power of the two earthquakes.
  - To use the calculator, follow these steps:
  - Click the 10^x button.
  - Enter the difference between two earthquake scales, such as 1.2.
  - Click) to close the parentheses.
  - Click =.

Step 4: Data Collection Sheet

- Use your Data Collection Sheet to note how this station helped you answer any of the essential questions:
  - How do we prepare for disasters?
  - What are some emotional, physical, mental, and financial effects of disasters?
  - What role do human strength and resilience play in recovering from disasters?