

Student Worksheet

Team member names _____

Instructions to Recreate a Seismogram

1. Place the strip of blank paper on a book.
2. Decide the task each of you will take in your team
 - ❖ One student holds the pencil stationary over the midpoint of the paper,
 - ❖ A second student will push the book back and forth
 - ❖ The third student pulls the paper across the book, creating a record of this movement that is analogous to a seismogram.
 - ❖ The fourth student records the time the "earthquake" lasted.
3. Make several seismograms trials to perfect the technique and produce a seismogram that is similar to the real one.
4. Take turns or alternate tasks among your teammates.

Questions to think about while recreating the seismogram:

1. What is your "seismograph" recording?
2. What happens to the amplitude (size of the wave) when you increase the amount of energy (shaking)?
3. What other factors affect how the seismogram looks? Think of the tasks each of your teammates did to make the seismogram.

Discussion questions for after the activity:

2. What did you have to do in order to make your seismogram look similar to one for this earthquake?
3. Looking at the seismogram for the actual earthquake, how long did the shaking occur? How does this compare to the length of time the "earthquake" you created lasted?
4. Would the seismogram look different if the shaking lasted longer?
5. What happens to the amplitude (size of the wave) when you increase the amount of energy (shaking)?
6. Why are there three seismograms for each station? What do you think is meant by vertical, north-south, and east-west motion?

The following animation provides a visualization of this concept.

<http://www.teachingboxes.org/earthquakes/resources/3components.mov>