Geophysical Research Abstracts
Vol. 20, EGU2018-11103, 2018
EGU General Assembly 2018

Earthquake Triangulation Around Your School

Stacy Terlep
Antioch Community High School, Science, United States (stacy.terlep@chsd117.org)

In order for geologists to determine the location of an earthquake's epicenter, they must use the process of triangulation. This activity has students locate three seismograph stations, determine the speed differences of a P-wave and S-wave, read a graph to find the distance from each seismograph station, then use that information to produce three circles around the three seismic stations and pinpoint where the circles intersect. This indicates the earthquake's epicenter.

This activity should be done at the end of the Earthquake unit and can be counted as an assessment grade. To prepare the activity, use visuals as students enter the room. Visuals include tables and chairs turned over, earthquake sound effects playing, actual earthquake footage projected, and even a large crack drawn on a large wall-whiteboard.

In this activity, students walk around the school to three "seismic stations" and triangulate the epicenter of an earthquake in small groups (groups of 2-3). To begin this activity, provide students with a background scenario about an earthquake that "struck" the school overnight. After visiting all three seismograph locations, students return to the classroom and use a graph provided to determine the distance from the epicenter at which each seismograph was located. Students will then use a compass to triangulate the epicenter of the earthquake on a provided map of the school. Once students think they have determined the epicenter, they must go to that location in the school and look for their "prize." Students enjoy this activity because it is very hands-on.

Grade: Secondary Education
Duration: 50-minute class period
Objective: Students will be able to determine the epicenter of an earthquake through the process of triangulation.

Material needed:
• Activity sheet and reflection questions
• 3 seismograms
• 3 Folders (labeled A, B, and C) to represent seismograph station
• Map of 1st floor of school (with seismogram points A, B, and C already marked!)
• Ruler
• Compass