Welcome to Earthquake Station!

Earthquakes, or quakes, occur when rocks move underground along a structure called a fault. Due to tectonic forces, the rocks on one side of a fault get displaced, and a lot of energy is released.

The amount of this energy defines the magnitude of an earthquake. The point in the subsurface where a rapture happens is called a focus or hypocenter, while the point on the surface directly above that is called an epicenter. Seismic waves,
generated during an earthquake, propagate in all directions. The ground-shaking caused by these waves can be recorded by an instrument called a seismometer or seismograph. They are usually deployed in the regions known to have elevated seismic hazards. Nebraska is considered tectonically quiescent, although there was a cluster of 28 earthquakes recorded in Custer County in 2018. The cause of that seismicity is still under investigation.

Below are links to several activities that our team developed for you. The highlighted words are used in the puzzles.

If you are interested in earthquakes, here are some useful resources we recommend for you:

https://www.iris.edu/hq/inclass(animation/1component_seismogram_building Responds to p_s_surface_waves

https://www.iris.edu/hq/inclass(animation/earthquakes_scattered_across_the_globe_recorded_by_one_station

https://www.iris.edu/hq/inclass(animation/4station_seismograph_network_records_a_single_earthquake

https://www.iris.edu/hq/inclass/software-web-app/earthquake_triangulation
To check the earthquakes that are happening right now use either the United States Geological Survey (USGS) catalog https://earthquake.usgs.gov/earthquakes/map or the Incorporated Research Institutions for Seismology (IRIS) earthquake browser https://ds.iris.edu/ieb

To learn about earthquakes in Nebraska please check our paper https://eas.unl.edu/Filina%20et%20al%20MG%20Dec%202018.pdf

Please feel free to contact us at ifilina2@unl.edu with your questions, comments, or feedback!
WORD SEARCH

Directions: Find the words in from the word bank in the puzzle. There are 16 words. The words are written forward, backward, and diagonally. Good luck!

Earthquake  Magnitude  Focus  Slip
Seismometer  Wave  Crack  Displacement
Fault  Epicenter  Hazard  Ground
Amplitude  Seismicity  Propagation  Shake
WORD SCRAMBLE

Directions: Unscramble each word below. If you can’t decipher the words, you can use the word bank to help you. Have fun!

1) HEQAKUERT-_____________________
2) GTOAPRIANP-_____________________
3) UTMGINDAE-_____________________
4) SGPMAHREIS-_____________________
5) YPHCNTEORE-_____________________
6) TMEDASIPCLNE-___________________
7) UTCRFAER-_______________________
8) PYOGESICSH-_____________________  
9) SOFCU-______________

Word Bank:
Earthquake Fracture Seismograph
Focus Propagation Geophysics
Hypocenter Magnitude Displacement
Locate an earthquake

1. Measure the distance between P and S waves in each record
2. Draw a circle with measured distance around each station
3. Find their intersection – this is the epicenter of the earthquake!
MAZE  Help the scientist to find his seismometer
CROSSWORD

Directions: Fill in the words in the crossword from the word bank. There are “clue letters” to help you fill in the correct word. Enjoy!

Word Bank

Magnitude Hazard Wave Hypocenter
Amplitude Tectonic Crack Slip
Seismometer Displacement Focus Shake
Fracture Seismicity Earthquake Epicenter