

Earthquake Detector

Make a simulated seismograph!



Supplies Needed

Box
Construction Paper
Pointed Tip Scissors
Rubber Bands
Ruler
String
Tape
Washable Fine Line Markers

Directions

- Girls can work in teams of two or three to build a replica of an earthquake detector.
- Remove the lid from a shoebox.
- Use a ruler to mark the beginning and end of the 4" (10 cm) slit and scissors to cut it in the bottom edges of the two long sides of the box.
- Cut paper into strips slightly smaller than 4 inches (10 cm) wide. Attach pieces together with clear adhesive tape to form a long strip. Insert the strip of paper into the slits so the ends of the strip extend out of the slits.
- Attach two rubber bands around the box so the bands are stretched wide to the sides of the other two slits. Place a fine marker between the two rubber bands. Cut two pieces of yarn with scissors and tie the marker into place between the rubber bands so the tip lightly rests on the strip of paper in the box.

- Girls work together with one partner jiggling the box and the other pulling the paper through to get a continuous reading of the magnitude of the simulated earthquake. Experiment with your own ideas for improving the design of the earthquake detector.

Resources and Ideas

- Have the girls research the earth processes that result in earthquakes. Look at maps to determine where earthquakes occur frequently. Locate recent earthquakes and find their magnitude. Investigate the science of earthquake detection, including seismographs and the Richter magnitude scale.
- Select an earthquake from a recent time period and they can research details, including rescue efforts, extent of damage, building code changes as a result of the quake, and other facts about the specific event.
- Possible resources include: Earthquakes by Seymour Simon; Earthquakes (reillustrated) (Let's-Read-and-Find-Out Science 2) by Franklyn M. Branley; DK Readers: Earthquakes and Other Natural Disasters by Harriet Griffey
- Girls could cover the sides of their earthquake detector with information about a specific earthquake. They can focus on the earth processes that work to cause earthquakes, including diagrams to illustrate what actually happens during an earthquake.
- The Richter Scale was developed by Charles Richter to measure earthquakes. He was born on April 26, 1900, near Hamilton, Ohio. Girls can investigate how he invented this tool. Older girls could also research the mathematical calculations used to determine Richter magnitudes.