HOW TO MAKE A SEISMOMETER

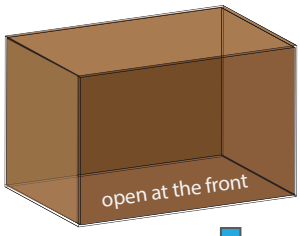
Earthquakes are an unpredictable and dangerous natural hazard that can affect millions of people. Scientists that study earthquakes and seismic waves are called **seismologists.** They use seismometers to detect and measure seismic waves.

Put your seismology skills to the test and follow the instructions carefully to **build your own seismometer.**

Equipment:

Pen or Pencil
Coins/Pebbles
Scissors
String (or twine, shoe lace)
Cardboard box
Paper
Sticky Tape
Paper or plastic cup

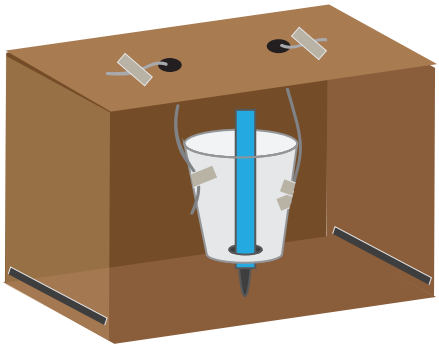
Step 1: Take a cardboard box (roughly square, although a cereal box works well too) and turn it onto its side so that the opening is at the front (or cut off the front side if using a cereal box).



Step 2: Cut a small hole in the bottom of the cup, large enough that the tip of your pen can poke through.

Step 3: Cut two holes in the top of your box.

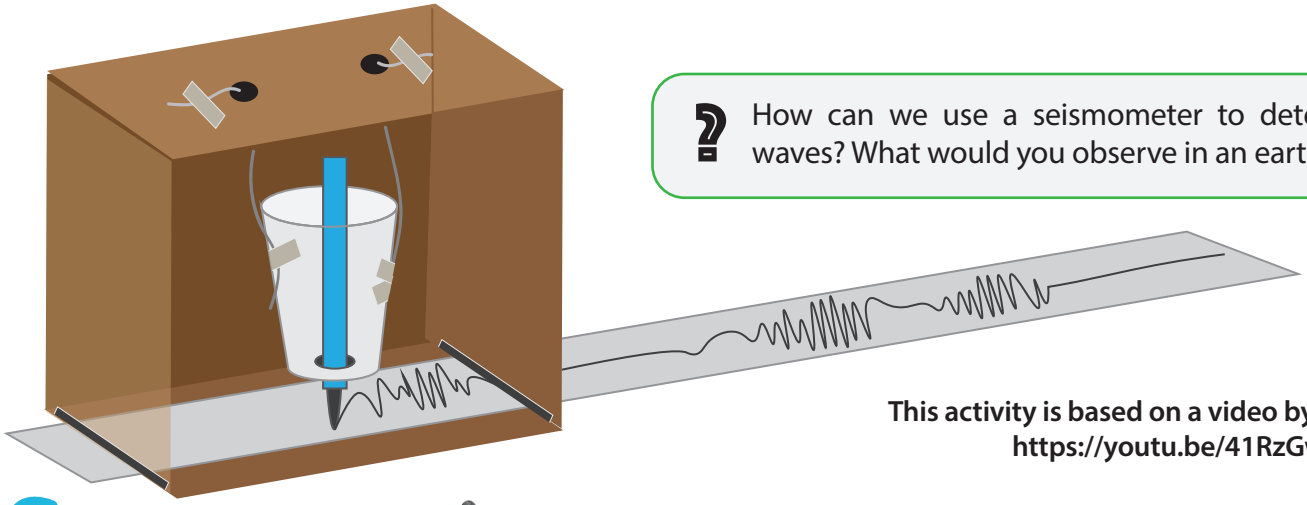
Step 4: Secure a piece of string to either side of your cup using sticky tape. Thread the two pieces of string (attached to either side of your cup) through holes in the top of your box and secure using sticky tape. The cup will need to hang low enough such that your pen will lightly touch the bottom of the box. Once your pen is in place, add coins/pebbles/weights to your cup to weigh it down and keep it steady.



Step 5: Finally, using scissors, carefully cut small slits in either side of the box (wide enough to thread strips of paper through). Your seismometer is now ready to go!

Step 6: It's time to measure an earthquake. Cut an A4 piece of paper into long strips and stick them together to create one long strip. Thread the paper through the two slits in your box, making sure your pen is resting on the paper. Slowly pull the strip of paper past the pen at the same time as shaking the box forward and back. You'll notice the pen starts to jump around and draw a wave pattern on the paper!

When the box is stationary the line of pen will stay flat. As soon as the box starts to shake, the pen will swing back and forth and creates waves on your paper. If you shake the box more, the amplitude of the wave will increase.



? How can we use a seismometer to detect seismic waves? What would you observe in an earthquake?

This activity is based on a video by Science Buddies!
https://youtu.be/41RzGwZINOk