



## DIY ACTIVITY

### MAKE YOUR OWN SEISMOGRAPH GRADES 3-5

#### OBJECTIVES

- Construct their own seismograph.
- Use their seismograph to record simulated earthquake activity.

#### PROCEDURE

#### WATCH THE GENERATION GENIUS NATURAL DISASTERS VIDEO AS A CLASS

#### MATERIALS NEEDED

- Box
- Scissors
- Rubber bands
- Marker
- Paper strip
- Ruler
- Cellphone or tablet

**Activity Duration:** 45 minutes

1. Take the box and measure out one inch from each side on the top. Use a pen to mark the measurement on both sides.
2. Cut out the center of the box using the markers as a guide. The final product should show a rectangle in the middle of the box.
3. Cut two slits on both sides of the box.
4. Take two rubber bands and loop them together to make a long chain.
5. Tie the rubber band together so that this chain becomes one big circle.
6. Wrap the rubber band around the box so that it makes an X intersection at the opening.
7. Put a marker in the rubber band right where the intersection point is. The tip of the marker needs to lightly touch the paper.
8. Feed the paper strip through the side slots of the box.
9. Test the seismograph by shaking a table to simulate an earthquake
10. While shaking the box, slowly pull the piece of paper out from one of the sides to see how the marker makes patterns on the paper.

Note: if the supplies are not available to make a seismograph, simply download a seismograph app to a phone or tablet and view different ones.

#### WHAT IS GOING ON HERE?

When a simulated earthquake occurs, such as shaking the table, the seismograph is used to record earthquake activity. The seismograph shows patterns on the sheet of paper. These patterns provide information about the details of an earthquake, such as how strong it is and how long it lasts.

## FURTHER EXPLORATION

Think about the purpose of a seismograph. How might engineers who design buildings in an earthquake-prone city benefit from using this type of data? (They can determine different things during engineering design, such as what building materials to use, how high the building should be, and the best location to construct these buildings.) Can these graphs be used to predict when an earthquake will occur? (no) Try re-simulating an earthquake, but this time increase the speed of shaking. Use the seismograph to record the earthquake activity. Observe the patterns you see and compare them with your original findings.

