

Earthquakes!

Suggested Age: 7-9

Time: 25 minutes



Earthquakes occur in many areas around the world. The strongest of these cause vast amounts of devastation. There are two main causes of earthquakes. The first of these is volcanoes. Many times, earthquakes are accompanied by volcanic eruptions. The other reason is due to plate margins or faults; the plates shift, causing the Earth's crust to move.

In this activity we will:

- Make a device that recreates earthquakes.

Materials

- Piece of cardboard 14" by 10"
- Piece of cardboard 11" by 7 ½"
- Scissors
- Masking tape or
- Pen
- Ruler
- 8 brads
- 4 medium rubber bands (all the same size)
- Marbles

Safety

Be careful when pushing any sharp objects (i.e. brads) through cardboard. Do not put your hand behind where the brad will come through.

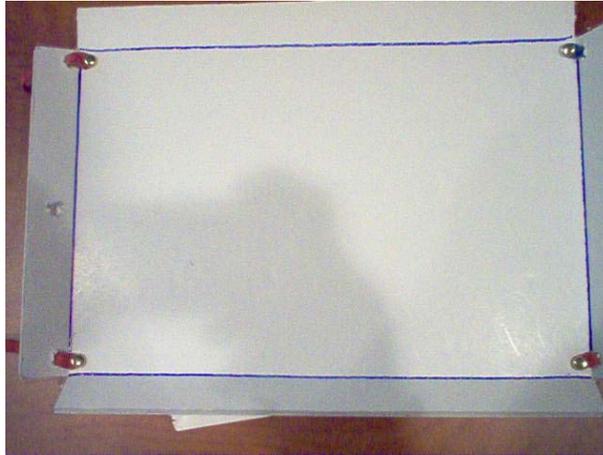
Pre-Activity

Discuss with the children what they think causes earthquakes. Discuss with them how earthquakes can be demonstrated. Discuss why, even if the plates move during an earthquake, that only part of the Earth is affected.

Activity

You have probably seen the after effects of earthquakes on the news. Quite frequently, there is mass devastation. Earthquakes are measured using the Richter scale. In this activity, you will build an apparatus that will allow you to simulate earthquakes.

- On the larger piece of cardboard, measure in one inch on all four sides and draw lines.
- Using the scissors, cut out the small squares at the corners.
- Measure in 1 ½ inches from each corner and make a mark.
- Cut slits in the short edges of the cardboard that are ¾ inch from the short edge and 1 ½ inch from the long edge.
- Cut a slit through the center of one of the short sides, ½ inch from the edge.



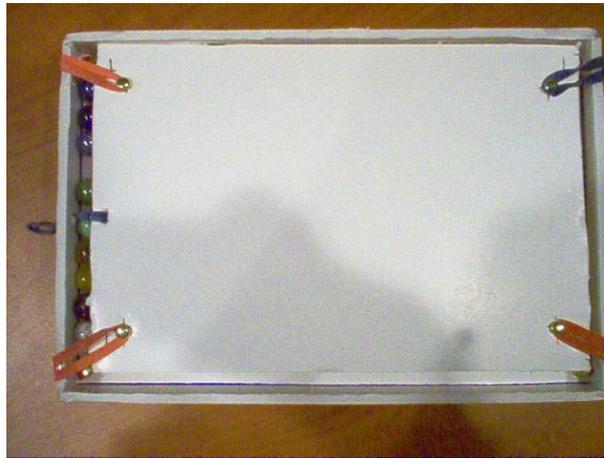
- Insert a rubber band through each of the slits and attach under the brads.
- Fold along the lines and tape the corners together such that a tray is formed.
- Place the marbles inside the tray.



- On the smaller piece of cardboard, make a mark 1 inch in from each corner.
- Cut a slit in the center of the smaller piece of cardboard ½ inch from the edge.
- Feed the string through this slit and tie securely.
- Insert brads through these points.
- Hook the rubber bands to the brads securely.



- Feed the end of the string from the smaller board through the slit in the tray.



- To create an earthquake, pull on the string and then let go.

Extension Activity

1. Use your seismograph in the Earthquakes! Activity to measure the intensity of earthquakes that you create.
2. Take your seismograph around with you! Measure the intensity of vibrations on a car ride. How smooth are the roads? Put it on your bed and then sit down. What happens? Put it on the dryer while clothes are drying!

References

http://interactive2.usgs.gov/learningweb/explorer/topic_hazards_earthquakes.asp

<http://www.thegreatestdisaster.com/AboutEarthquakes/causes.htm>

<http://www.cln.org/themes/earthquakes.html>