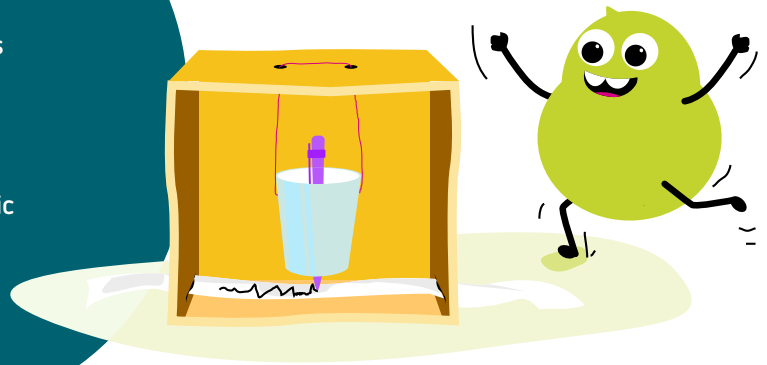


# GOOD VIBRATIONS

In 2020, most countries imposed a lockdown. It was difficult for people to connect with others and less movement made the world quieter. This was good for scientists investigating connections between underground vibrations (seismic waves, similar to sound waves). Learn how scientists measure seismic vibrations by making a simple seismometer.

🕒 45 minutes

Skills unlocked: Curious, Collaborative, Resilient



## 📦 Kit list

A cardboard box  
(a shoe box is ideal)

A paper or  
plastic cup

A felt tip pen

Scissors

String

Tape

A long strip of paper



## 📖 Instructions

- 1 Look at the diagram on the following page.
- 2 Remove the lid of a shoe box.
- 3 Make slits on opposite sides of the box, so paper can be threaded slowly through at the bottom.
- 4 Make one hole in the bottom of the cup and push the tip of a felt tip pen through this hole.
- 5 Make 2 holes on opposite sides of the rim of the cup and tie some string to each hole.
- 6 Attach the other end of each string to the top of the box so that the cup is dangling inside the box and the pen is resting on the paper strip.
- 7 Now you are ready to measure seismic events. Remember - the larger the movement of the box (caused by seismic activity), the larger the pen scribble.
- 8 You could investigate seismic activity created through jumping on a PE mat. Which types of jumps create the greatest seismic activity?
- 9 Have someone slowly pull the paper through the bottom of the box, whilst you jump on the mat.

## ⚠️ Watch out

- Take care when making holes in the box and the cup. You might want an adult to do this for you. You might prefer to use tape to attach the different parts.
- Paper will need to be pulled slowly through the box.

## ➡ Next steps

To find out more about seismic activity, you might like to read PSTT's *I bet you didn't know...* article, 'What happens underground when humans stay indoors'. You might like to try other related activities described in the associated Teacher Guide. Both can be found here: [pstt.org.uk/resources/curriculum-materials/cutting-edge-science-primary-schools](https://pstt.org.uk/resources/curriculum-materials/cutting-edge-science-primary-schools) ✨

## 🏠 At home

Where can you see or feel vibrations in your home? What causes them? Can you record these vibrations using your seismometer?

## ↔ Career options

- Seismologists measure vibrations travelling underground to help to find out where there is significant seismic activity and to predict where potential earthquakes might happen.
- You could visit PSTT's resource - *A Scientist Just Like Me* – to find out about other science-related jobs: [pstt.org.uk/resources/curriculum-materials/ASJLM](https://pstt.org.uk/resources/curriculum-materials/ASJLM) ✨

