

# SLINKY WAVES

## Earthquake Body Waves

When an earthquake occurs energy spreads outwards, shaking the ground as it goes. Just like when you drop a pebble into a pond and see ripples spreading outwards on the surface, the energy from an earthquake also spreads outwards. There are several different types of earthquake waves...

### Surface waves

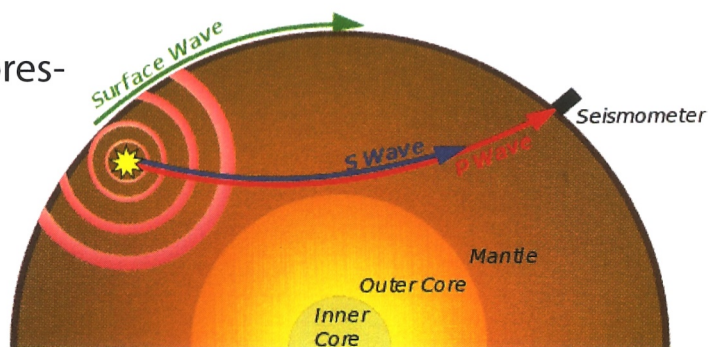
Waves that travel along the top of the earth are called SURFACE waves. Surface waves have a complicated motion called a retrograde ellipse, which looks like drawing a backwards circle which moves forward.

### Body Waves

Waves that travel inside the earth are called BODY waves. There are two different types of body waves:

**P waves** or Primary waves are compressional, vibrating in the direction of motion.

**S waves** or Secondary waves are transverse, vibrating perpendicular to the direction of motion.

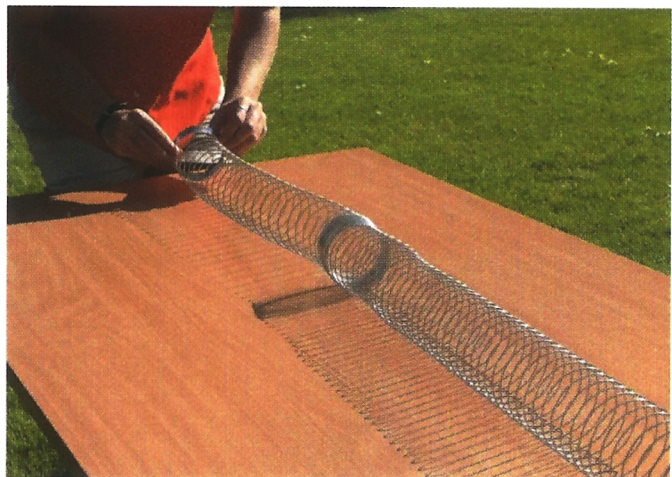


### What you'll need:

- A slinky
- A smooth surface

### Instructions

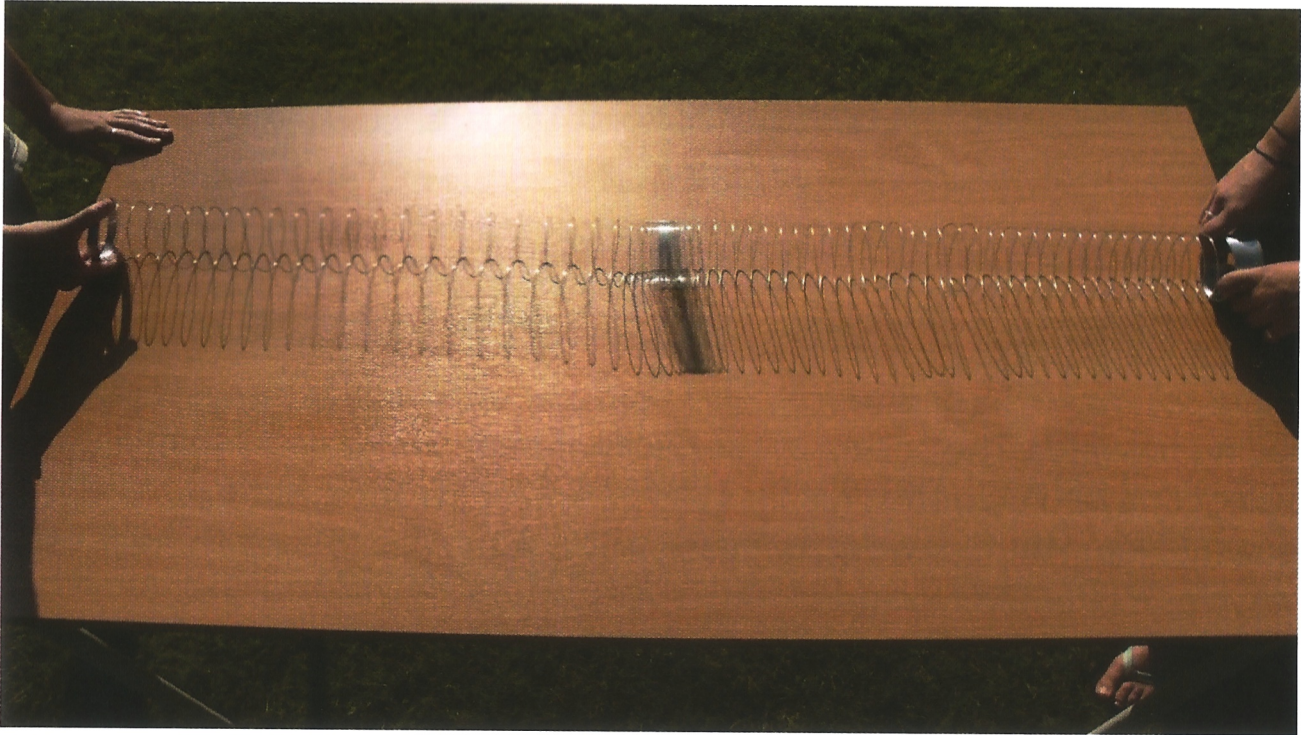
You can easily make your own P and S earthquake waves, to help you understand how they move, by simply using a slinky!



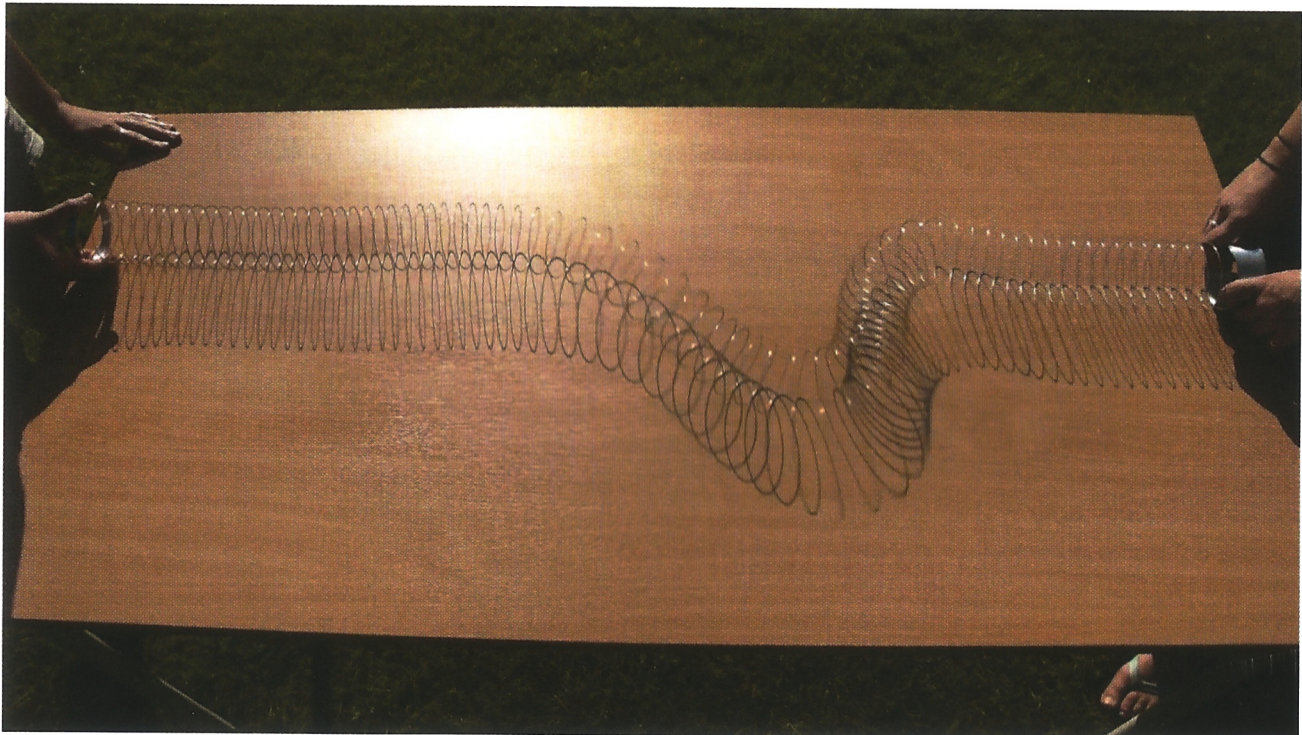
Find a smooth surface - either a table or the floor - and get a friend to hold the other end of your slinky. Stretch the slinky out between you until it is taut. To make an earthquake wave one of you moves their end of the slinky while the other person holds their end still.



**To make a P wave:** Give your end a sharp push forward before moving your hand back to where it started. You can see the P wave travelling towards your friend as compression and extension of the slinky.



**To make an S wave:** Give your hand a sharp flick out to one side before moving it back into the middle. You can see the S wave travelling towards your friend as side-to-side motion of the slinky.



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