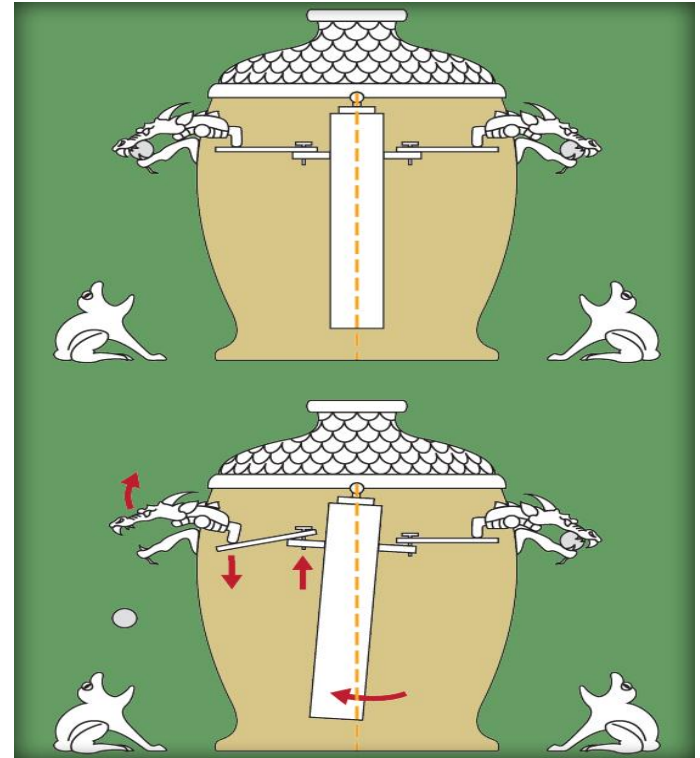


Chapter 8.2: Measuring Earthquakes

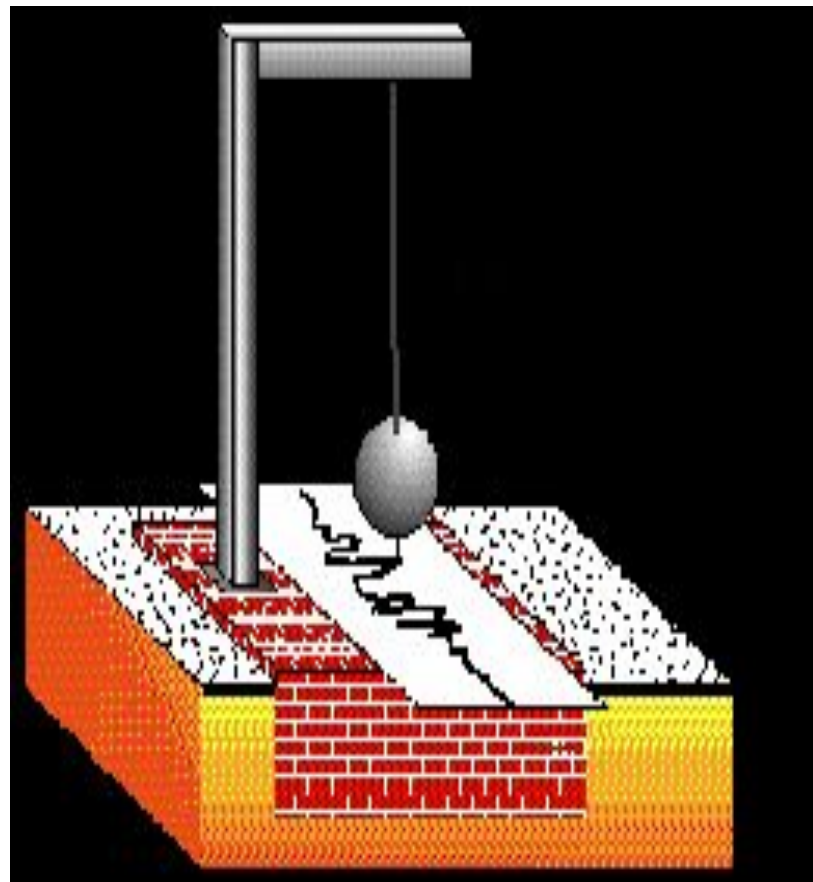
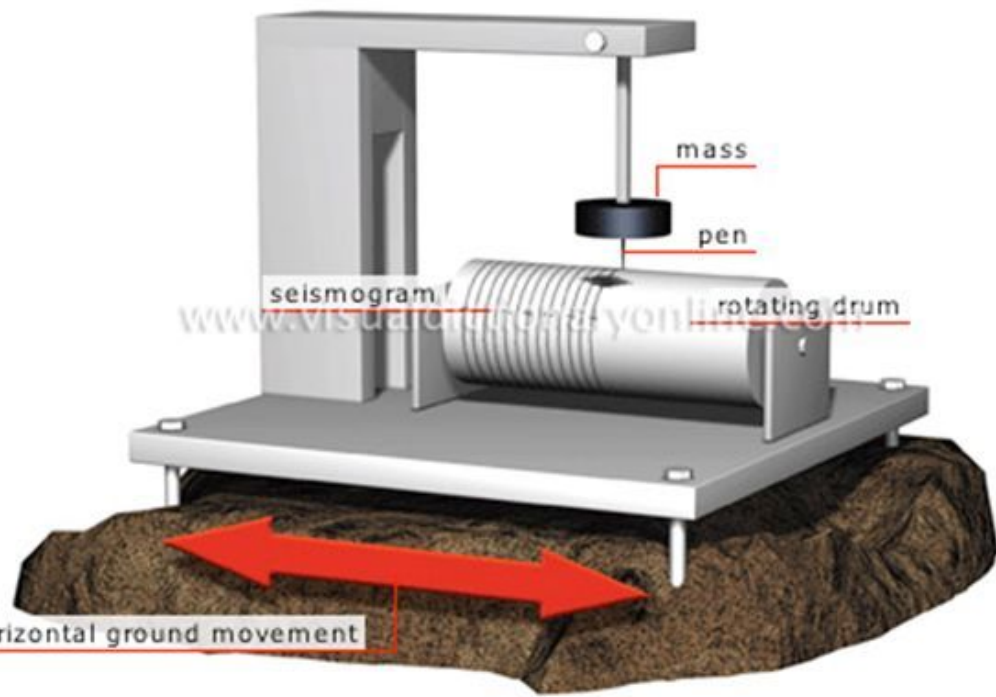
Seismology is the study of earthquake waves, or seismic waves.

Seismometers are instruments used to record seismic waves.

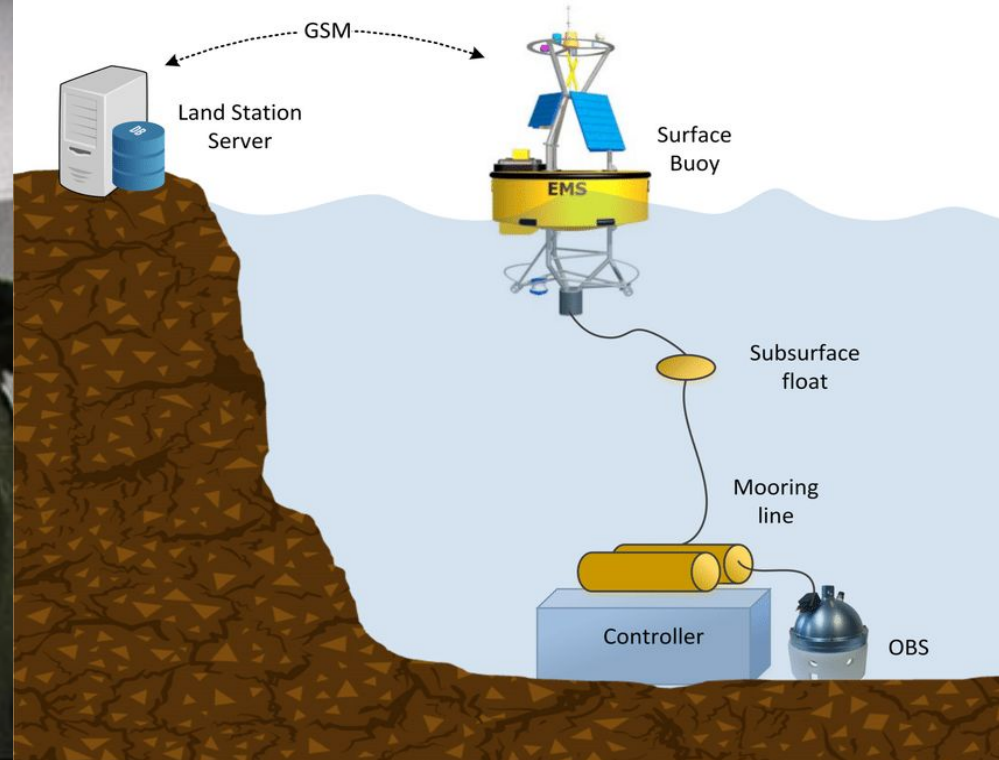
*...also called
seismographs*



horizontal seismograph



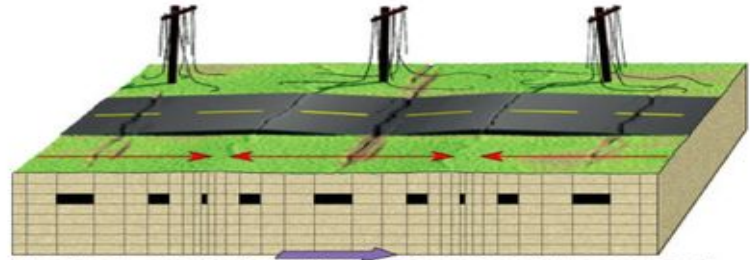
Seismogram: a trace produced from a seismograph, which amplify and electronically record ground motion. (Now digitally recorded)
(*seismos*=shake, *gram*= written)



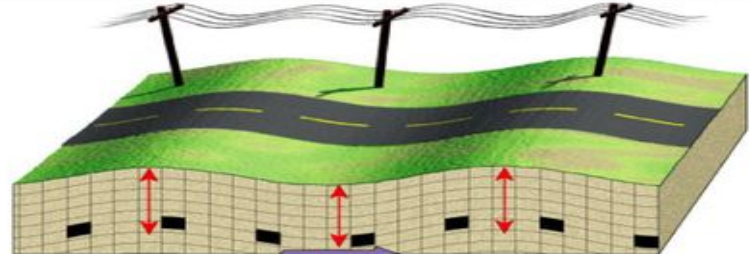
Body waves: seismic waves that travel through Earth's interior.

P waves (primary) compressional

S waves (secondary) transverse

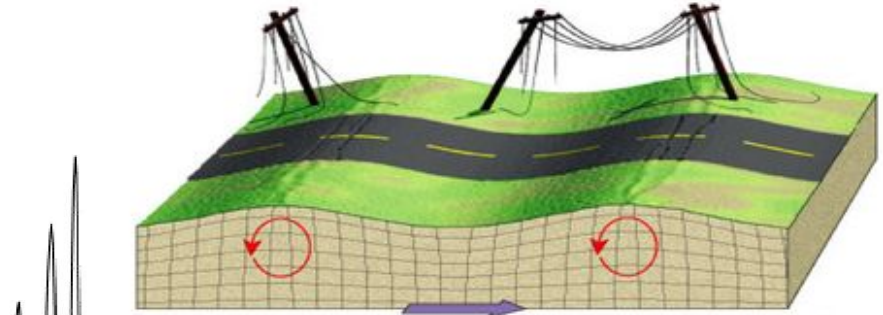


The back-and-forth motion produced as P waves travel along the surface can cause the ground to buckle and fracture.

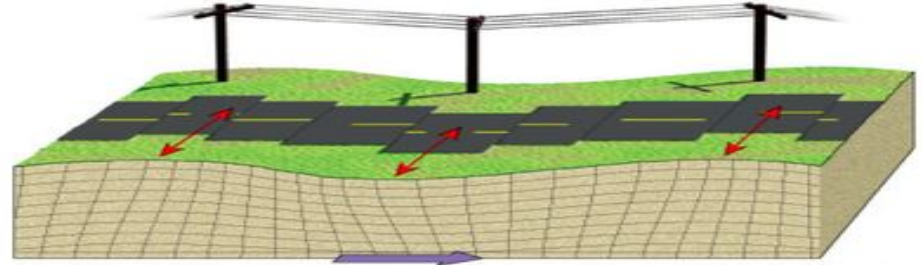


S waves cause the ground to shake up and down

Surface waves: seismic waves that travel across Earth's outer layer.



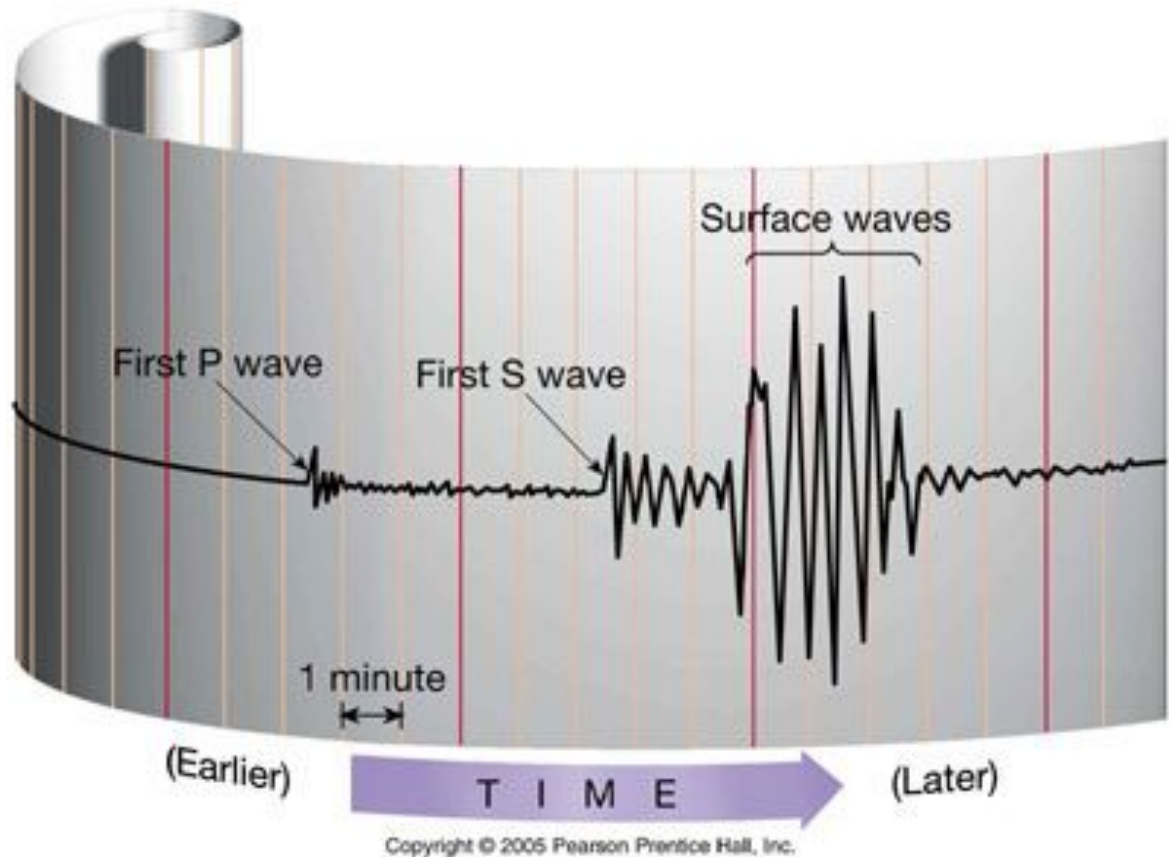
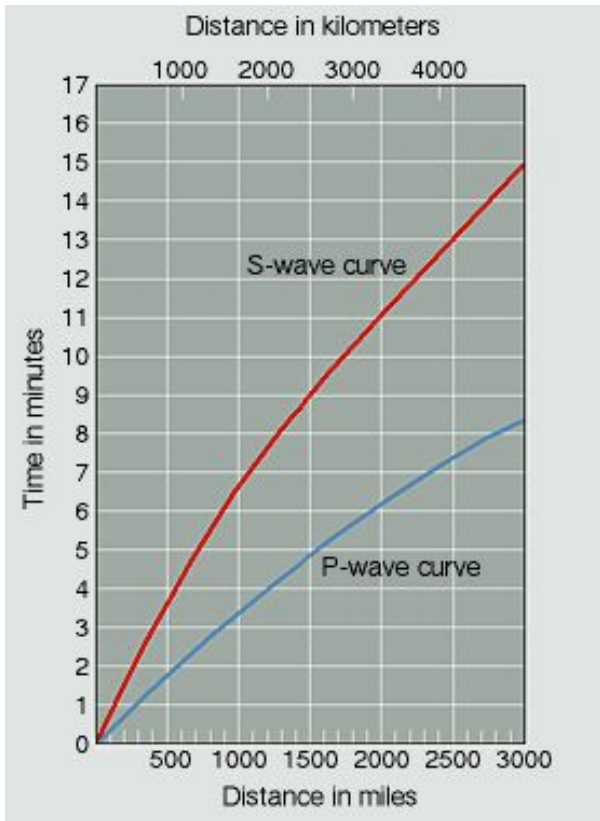
Another type of surface wave travels along Earth's surface much like rolling ocean waves. The arrows show the

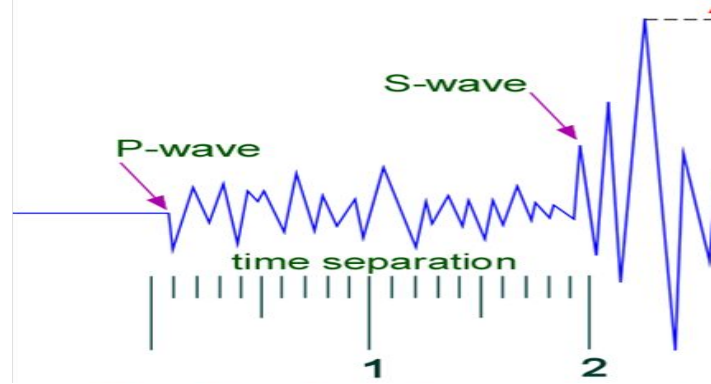
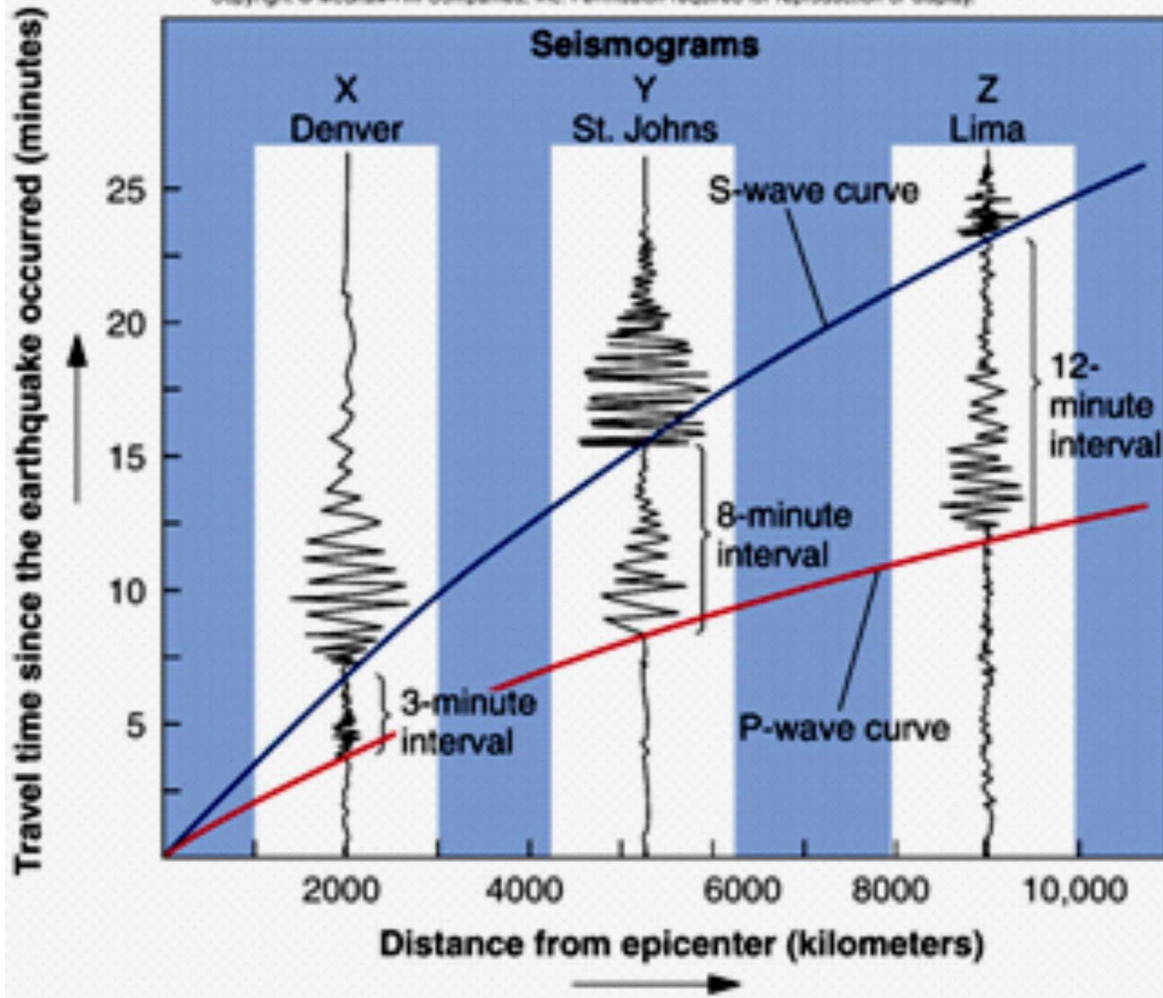


One type of surface wave moves the ground from side to side and can damage the foundations of buildings.

[Bill Nye](#)

The difference in velocities of P waves and S waves show the **distance** between seismograph and epicenter of an earthquake.





Travel time taken from 3 locations allows seismologists to locate epicenters

Locating an Epicenter

Key

-  Earthquake
-  Seismographic station

