EARTHQUAKES

WHAT IS AN EARTHQUAKE?

An ***earthquake*** is a shaking of the ground caused by the sudden movement of large blocks of rock along a fault. Earthquakes occur along faults.

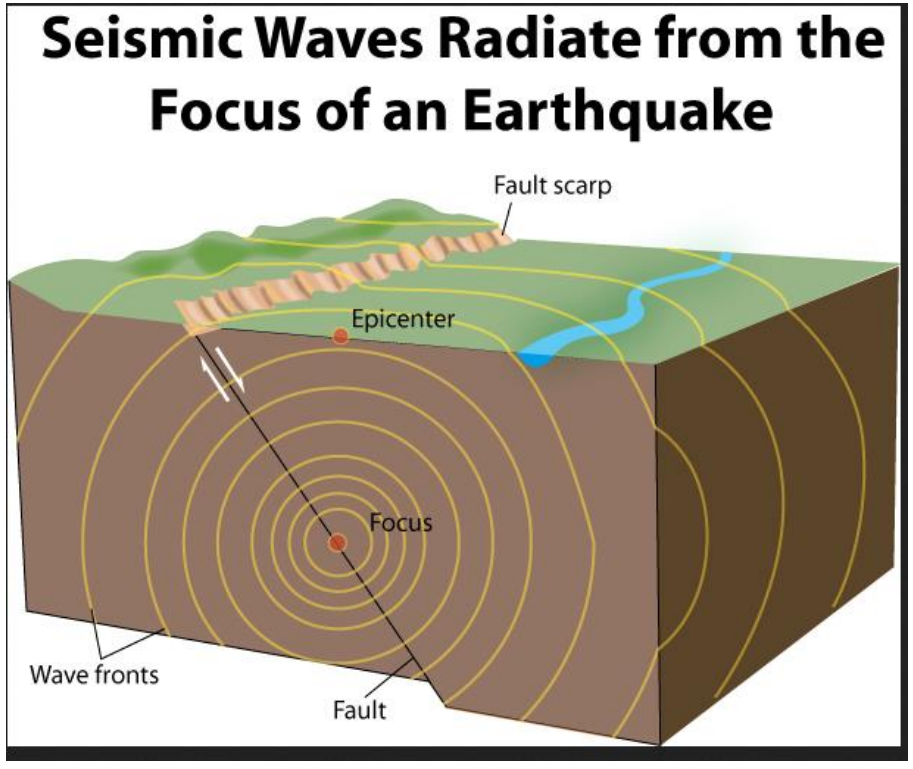
What causes an earthquake?

Tectonic plates move past each other causing stress and stress causes the rock to deform

***Deform**-to distort the shape or form

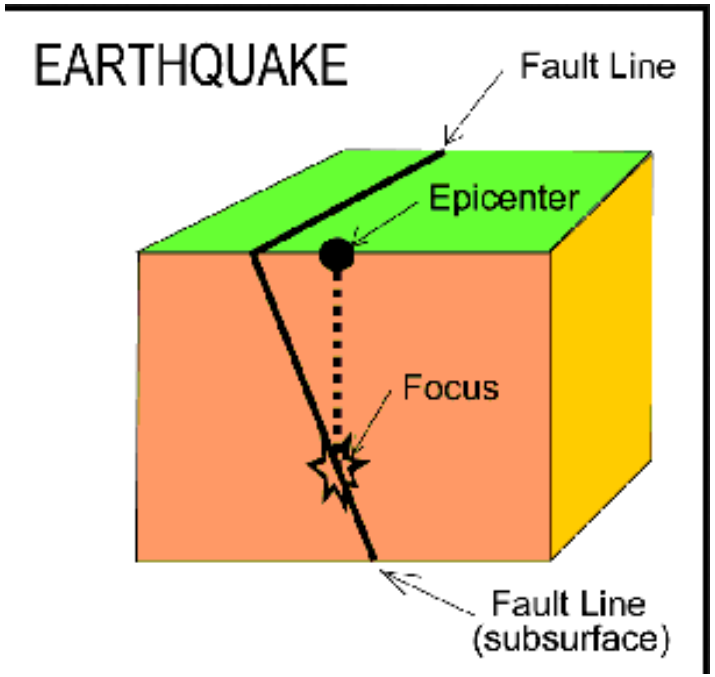
What is released during an earthquake?

Energy from earthquakes travels through Earth. The energy travels as ***seismic waves*** which are vibrations caused by earthquakes. Seismic waves from even small earthquakes can be recorded by sensitive instruments around the world.



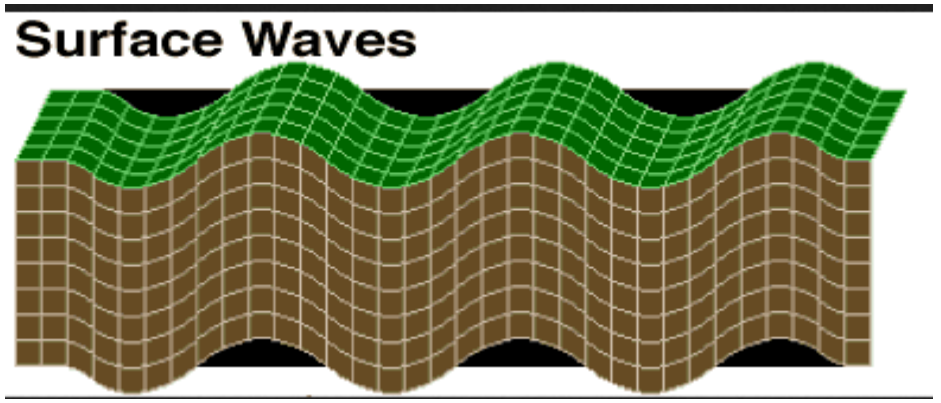
What is the focus and epicenter of the earthquake?

All earthquakes start beneath Earth's surface. The focus of an earthquake is the point underground where rocks first begin to move. Seismic waves travel outward from the earthquake's focus. The epicenter is the point on Earth's surface directly above the focus.

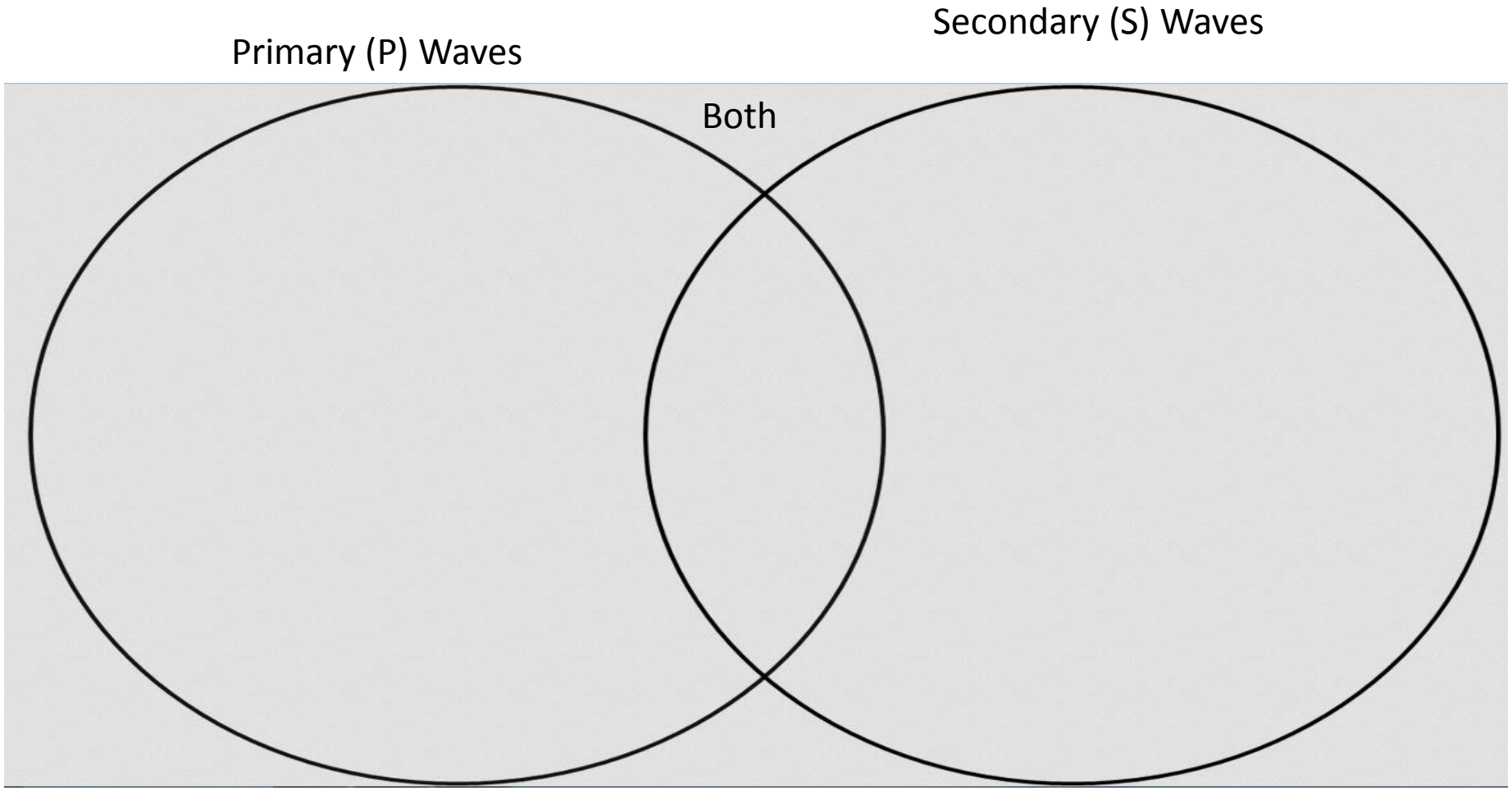


Characteristics of a Surface wave (L waves)

- Seismic waves that move along Earth's surface, not through its interior.
- Make the ground roll up and down or shake from side to side.
- Slowest moving seismic waves
- Travel on top of Earth's surface
- Cause the largest ground movements and the most damage as they bend and twist the surface

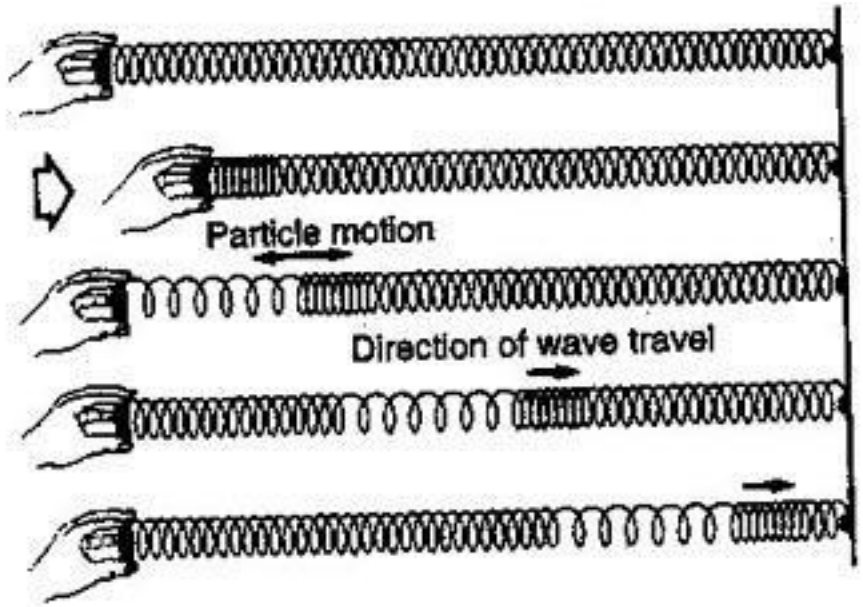


Using the 2 next slides on P and S waves; complete a Venn diagram comparing and contrasting P and S waves. Set up your diagram like the one below.



Primary Waves (P-Waves)

- Primary waves are the fastest(5 km or 3mi/sec) and arrive first at the epicenter
- Can travel through solids, liquids, and gases
- They are push-pull waves



Secondary Waves (S Waves)

- The second seismic waves to arrive at any particular location after an earthquake,
- Travel through Earth's interior at about half the speed of primary waves.
- Can travel through solids, but ***NOT*** through liquids and gases
- Move in up-down motion