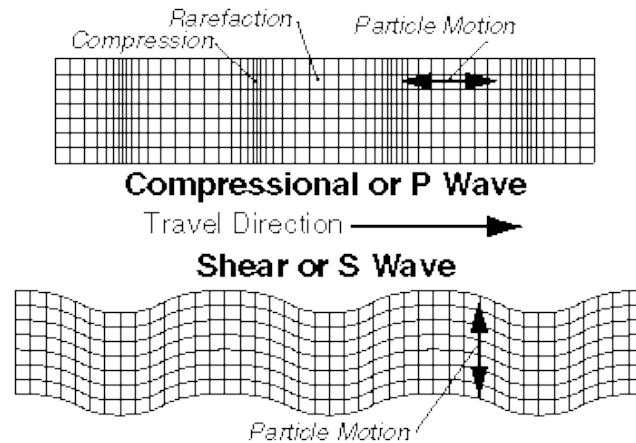




Introduction to Earthquake Waves



TOPIC	INFORMATION
Overview	<p>Earthquakes (and volcanoes) are evidence for plate tectonics. Energy is emitted in the form of waves that move at different speeds and in different directions.</p> <p>A Slinky can be used to model earthquake waves!</p>
Background information	<p>Basic understandings of earthquakes:</p> <ul style="list-style-type: none"> ✓ The Earth has layers ✓ Plate tectonics include plate movement, continental drift, and plate boundaries ✓ There are different types of faults: <ul style="list-style-type: none"> ○ Divergent ○ Convergent ✓ Earthquakes are caused when energy is released as the lithosphere (crust and upper mantle) of the earth moves.
Wave Types	<ul style="list-style-type: none"> • P-Waves: Primary waves are the first waves that a seismograph records. It is the fast wave that is sometimes called a push-pull wave because it moves by contracting and expanding along a horizontal path. • S-Waves: Shear waves move from side to side and are slower than P-waves. The particle motion in shear waves is perpendicular to the direction of the wave.
Demonstrate	<p>Stretch the Slinky 5-6 feet between partners with one person holding each end.</p> <p>P-Waves: pull the Slinky toward you a bit and then push it away. You should see that the vibrating parts of the Slinky move back and forth along the same direction in which the wave is traveling.</p> <p>S-Waves: Shake one end of the Slinky from side to side. The sections of the Slinky move from side to side horizontally, but the movement of the Slinky is at right angles to the direction of the progressing wave.</p>