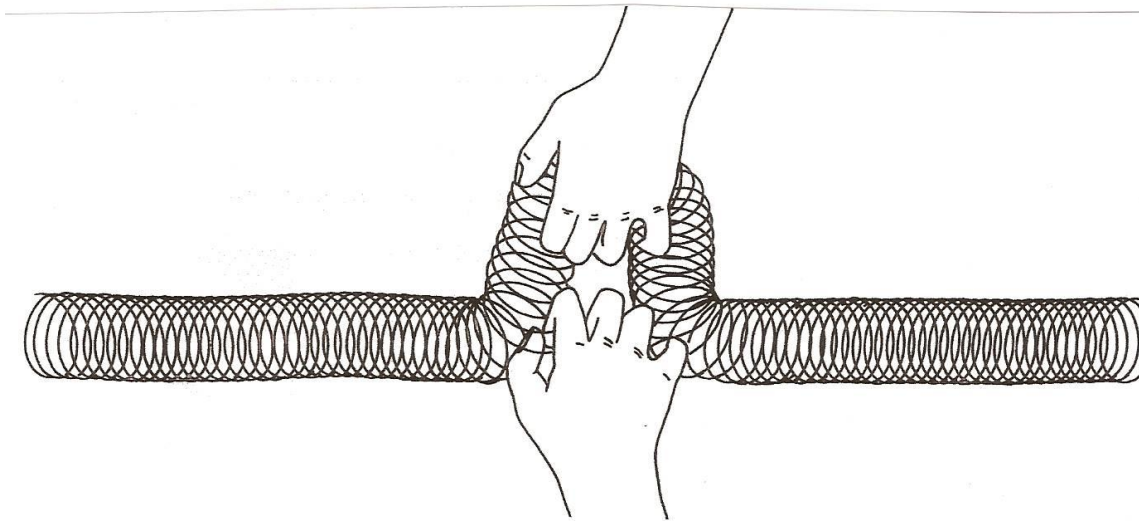


WAVE PROPERTIES

Activity 2: Waves on a Slinky

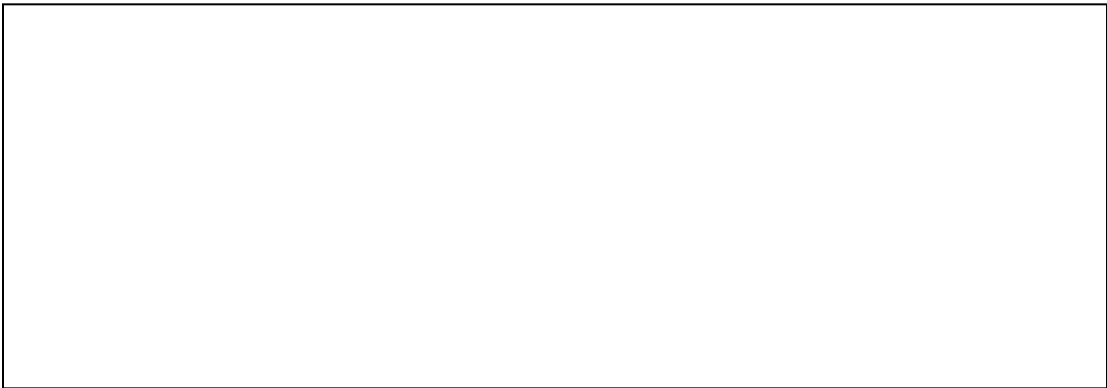
1. On a smooth floor, stretch the spring to about 3 meters. Have one person hold the spring at each end. Do not overstretch the spring.
2. Make a loop at one end of the spring.



Observe the reflected wave. Is the reflected wave on the same or the opposite side as the original wave?

4. Move one end of the spring back and forth on the floor. Draw a diagram of the wave you observe. What type of wave is this? Transverse or Longitudinal?

- 5. Increase the rate at which you move the spring back and forth. Draw what you observe. What happens to the frequency when you increase the rate at which the spring is moved back and forth? What happens to the wavelength?**



- 6. Squeeze together the first 20 cm of the spring. Release the compressed section and observe the wave as it moves down the spring. What type of wave is this?**



- 7. Generate several waves of this type at regular intervals. The pulses created form periodic waves. The time between is the period of the wave. The frequency is the number of complete cycles the wave makes in a specific unit of time. Using a stopwatch record the time it takes for the leading edge of the slinky to cross starting and**

stopping points you have selected. Calculate the frequency: $f = 1/T$

Frequency is expressed in Hertz. Repeat the activity three times and then calculate the average frequency.

Note: f (frequency) is the number of crests that pass a point in a given amount of time

T (Time) is the measured amount of time it takes for the crests to pass