

# Types of Waves

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

1. With your lab group, stretch the slinky between the pieces of tape on the lab table. Measure the length of the outstretched slinky.

Length- \_\_\_\_\_ m

2. Create a wave by having one person quickly snap their wrist sideways while the other student is holding the slinky.

Is this wave longitudinal or transverse? \_\_\_\_\_



3. Repeat step 2 and time three waves as they travel the length of the spring.

**Record the times in the chart below**

Trial	Distance Traveled (Meters)	Trial Time (seconds)	Overall Speed of the Waves (m/s)
1.			
2.			
3.			

4. Do the times in the chart above represent amplitude, wavelength, or the frequency of the wave? \_\_\_\_\_

5. Repeat step 2, but do not snap the spring as far. Which part of the wave was affected by this change: the amplitude, frequency, or the wavelength?

\_\_\_\_\_

6. Repeat step 2, but snap the spring three times in a row. Which part of the wave was affected by this change: the amplitude, frequency, or the wavelength?

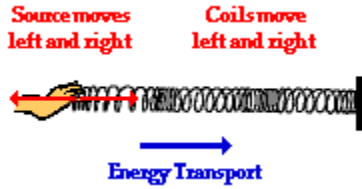
\_\_\_\_\_

7. How could you make a higher energy wave than the wave you created in step 6?

\_\_\_\_\_

8. Squeeze together about 15 additional slinky coils, and then release them. Make sure not to let go of the slinky, you are just releasing the additional coils.

Is this wave longitudinal or transverse? \_\_\_\_\_



9. Repeat step 8 and time three waves as they travel the length of the spring.

**Record the times in the chart below**

Trial	Distance Traveled (Meters)	Trial Time (seconds)	Overall Speed of the Waves (m/s)
1.			
2.			
3.			

10. Repeat step 8, only squeeze together 7 coils. Which part of the wave was affected by this change: the amplitude, frequency, or the wavelength?

11. How could you increase the speed with the wave you created in step 10?

\_\_\_\_\_

12. Have one partner quickly push the spring toward the other person (don't let go of the spring) then pull it back.

Is this wave longitudinal or transverse? \_\_\_\_\_

13. Draw a longitudinal and a transverse wave below and label the wavelength and amplitude of each of the waves.