

Name: \_\_\_\_\_

Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Wave Lab

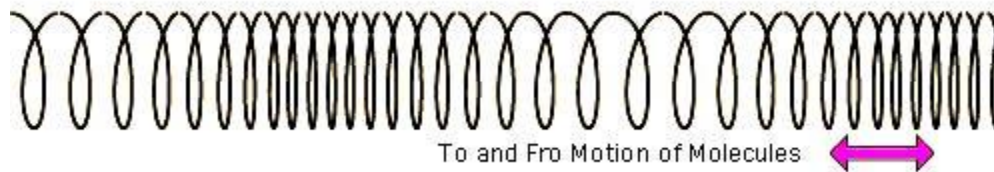


**PROBLEM:** How do waves travel in a spring?

**Procedure:**

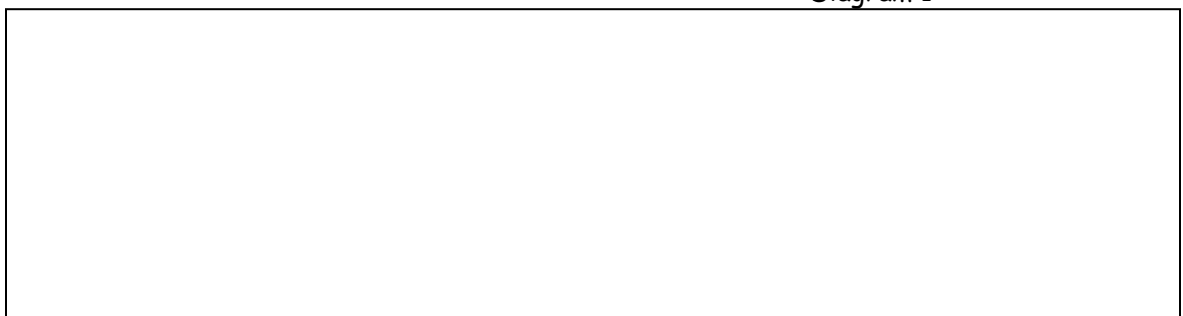
1. On a clear tabletop, stretch the spring. Hold one end while your partner holds the other end. **DO NOT OVERSTRETCH THE SLINKY!!**
2. Pull a few coils of the spring to one side near one end of the spring.
3. Release the coils and observe the motion of the spring.
4. Describe what happens in words: \_\_\_\_\_

5. The arrows below show the direction of the waves.



6. What type of wave have you created in #3? \_\_\_\_\_
  7. Have your partner SLOWLY move one end of the spring to the left and then to the right, while keeping the slinky on the tabletop. Be certain that both ends are held tightly.
  8. Describe what happens in words: \_\_\_\_\_
9. What type of wave have you created in #7? \_\_\_\_\_
  10. Draw a diagram of what you observed; include arrows to show the direction of the wave. *Label the crest, trough, wavelength, & amplitude.*

Diagram 1



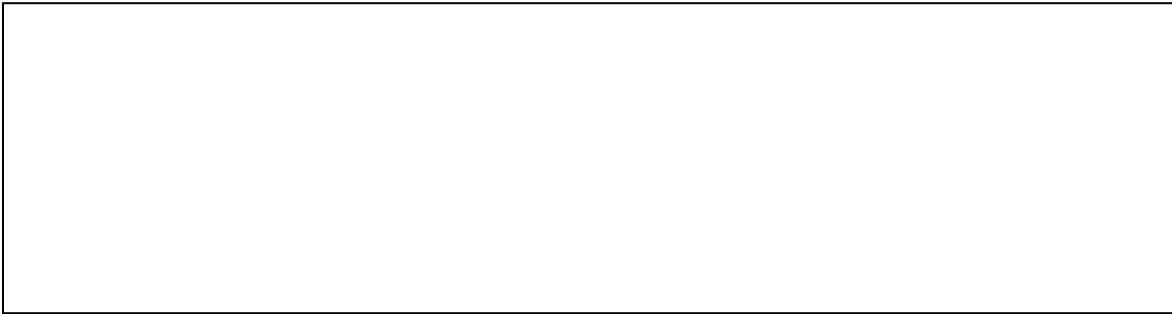
11. Repeat step #6, increasing the rate at which you move the slinky left and right.
12. Describe what happens in words: \_\_\_\_\_

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13. Squeeze together several of the coils, making a compression.  
14. Based on #13, draw a diagram of the slinky. *Label the compression and the rarefaction.*

Diagram 2



15. Release the compression section of the spring and observe the energy as it moves down the spring.  
16. What type of wave have you created in #15? \_\_\_\_\_

**Conclusion Questions:**

17. What was the medium for today's lab? \_\_\_\_\_
18. What is another word for volume? \_\_\_\_\_
19. If these were sound waves, how did you increase the volume in today's lab? \_\_\_\_\_  
\_\_\_\_\_
20. As volume increases, amplitude \_\_\_\_\_ (increases/decreases).
21. If these were sound waves, how could we have increased the pitch in today's lab? \_\_\_\_\_  
\_\_\_\_\_
22. As pitch increases, frequency \_\_\_\_\_ (increases/decreases).
23. If we were measuring the volume of the sound created, what unit of measurement would we use? \_\_\_\_\_
24. If we were measuring the pitch of the sound created, what unit of measurement would we use? \_\_\_\_\_

