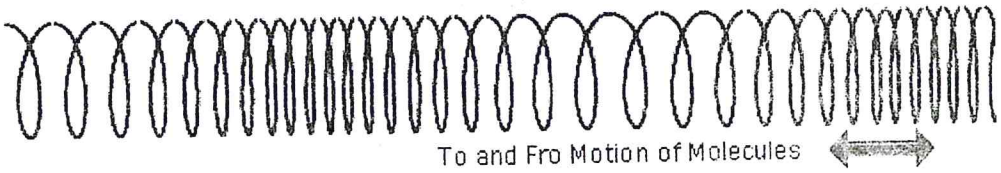
Name:_____ Period:_____ Date:_____

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 <u>SLOWLY</u> 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 are the differences between longitudinal waves and transverse waves?_____