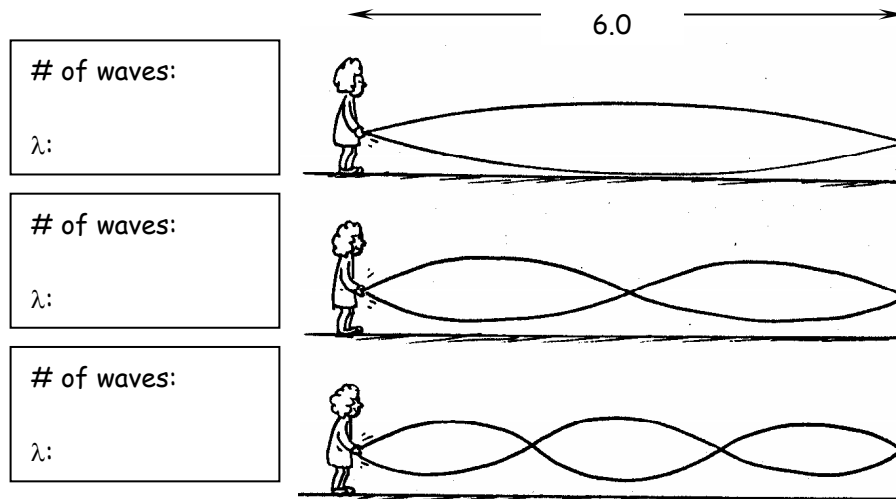


Wave Lab

Prelab Questions:

1. A student moves a spring to make transverse waves. If she creates 4 crests in 8 seconds, what is the *period* of the wave?
2. A student shakes a spring to form each of the following patterns below. Sketch, or cut and paste, the diagram below in your notebook. Fill in the missing information for each pattern.



Purpose:

The purpose of this lab is to investigate the relationship between wavelength, λ , and period, T , for two differently springs. The independent and dependent variables are

Procedure:

- Two students stand 8 floor tiles apart.
- Create the wave patterns as shown above and time how long it takes to complete 10 cycles.
- Repeat 4 times for each pattern.
- Record all values in the data chart.
- Repeat experiment using your other spring.

Analysis:

- Construct a graph and plot your data points. Use ■'s as the data points for one spring, and ●'s for the other spring.
- Draw a best-fit line on your graph for each spring.

Analysis Questions:

1. What is the relationship between wavelength and period?
2. What are the units of the slope?
3. What does the slope of this line represent?
4. Write the equation for this line. (Remember: we do *not* use x and y !)
5. Which spring did waves travel through the fastest? Explain.
6. List possible sources of error that could have affected your data.