

QUESTIONS TO HAND IN-EXPERIMENT 11

NAME _____

LAB INSTRUCTOR _____ LAB DAY/TIME _____

1. A standing wave pattern exhibits a wavelength of 0.10 m at a frequency of 70 hertz. What is the wave speed?
2. In this experiment, the frequency of the wave is kept constant by the tuning fork, and the speed is changed by changing the tension on the string. By what factor does the wave speed have to change to go from a 6-loop pattern to a 3-loop pattern?
3. The speed of waves on a string is proportional to the square root of the tension. By what factor does the tension have to be increased in order to increase the speed by a factor of 4?
4. The other factor affecting the speed of waves on a string is the linear mass density. What could you do to change this factor?
5. A standing wave pattern is observed with 5 loops that extend over 0.70 meters. What is the wavelength?