

# Waves on a String Lab

## Procedure

Make a chart with Quantity Measured/Symbol for Measurement/Instrument Used. Briefly, but completely, describe the procedure for this lab – and include labeled sketches.

## Data

Arrange your actual data, neatly, in tables (if necessary) with correct headings and units. Include any calculated columns needed to linearly graph and analyze your data.

## Graphs & Diagrams

Using appropriate titles, scales, labels and units, create a linearized graph for Part 1 and a linearized graph for Part 2.

## Questions

- 1) Draw a best fits line for your Part 1 graph and find the equation of the line.
- 2) What does the slope to your BFL in Part 1 represent? Explain.
- 3) Once you have your result, share your slope along with the length of the string for this part with the rest of the class. Once enough students have shared their results, explain any trends. What do you think is the cause? If you don't see a trend, explain why not.
- 4) Draw a best fits line for your Part 2 graph and find the equation of the line.
- 5) Use the slope of your BFL, along with other data, to find the linear density of the string used in this part. Show all work.
- 6) Use the actual mass and length of the string in Part 2 to find the accepted value of the linear density of the string. Find the percent error for your experimental value from #5.

## Error Analysis

Thoroughly explain what the main sources of error are for this lab, and how you would correct them.

