

Graphing Exercises 1 & 2

Exercise 1

It is important that you be able to interpret data that is represented in graph form. Use the following link to go to the online worksheet where you will practice reading and interpreting graphs and charts. Make sure you complete all parts of the worksheet and click **Submit** when you are finished.

<https://goo.gl/forms/RTBLawWtSFnsZwcy1>

Exercise 2

Determine the height from which to drop a ball so that it will bounce back up inside a desired target. Conduct a "mini experiment" to collect at least seven data points that you can graph.

- Conduct a "mini experiment" to collect at least seven data points that you will graph in Excel.
- **Hints for Graph:** What are the independent and dependent variables? What are you purposefully changing, and what is changing as a result? Make sure you include all the required "parts" of a good graph!

Excel Graph:

Analyze your experimental data using Excel or *other data analysis software*. Create a full page, scatter plot graph to insert into your lab report. You must also include your data table inserted on top of the graph in such a manner as to not obscure the information on the graph.

Reminders for constructing Excel graphs:

- Use a SCATTER plot graph and not a line graph. In Excel, line graphs connect the dots and that is a no, no!!
- **"HOW TO" PRINTABLE INSTRUCTIONS:** Go to our class website for a PDF with excellent instructions on "How to Make a Best Fit (Scatter Plot) Line Graph in Excel 2010"
- **"HOW TO" VIDEO:** Click here for a short video tutorial on making XY Scatter Plot Graphs in Excel (please note that you do not have to include the equation for the graph on your graph)
<https://vimeo.com/137154649>
- If the instructions for making a graph on Excel are confusing, or you are using another type of data analysis software, GOOGLE IT until you find instructions that make sense to you!

QUESTIONS: Answer these questions from your experiment/graph. Include your answers at the end of your lab report. Use complete sentences. You do not have to include the original question.

1. In the experiment, what was the control? Explain why.
2. What was the independent variable? Explain why.
3. What was the dependent variable? Explain why.
4. What is the relationship between your data? Include an equation.
5. Use your graph to interpolate a value for a y variable using an x variable.
6. Use your graph to interpolate a value for an x variable using any variable.
7. Use your graph to extrapolate either an x or a y value.