

Linear vs Exponential

To Start:

- 1) Go to <http://aspire.cosmic-ray.org/javalabs/java12/SciNot/> in your internet browser.
- 2) Click on “Student Lab” underneath the “Linear vs Exponential” section.
- 3) Read the introduction and problem setup. Discuss with your lab partner ways to use numbers written in scientific notation to represent exponential growth.

Interactive Lab:

- 1) Read the instructions for the lab.
- 2) Enter an initial population and growth parameter. Record these two numbers in the data table your teacher has provided.
- 3) Start the experiment. Take data at regular intervals and write it down in your table.
- 4) Run the experiment multiple times with different initial populations and growth parameters each time. Be sure to record your data in the table.
- 5) To learn about plotting points on a logarithmic graph, click on the button in the graphing activities section.
- 6) Click on the button in the upper-right corner to walk through the steps. If you don't understand the directions, click the “Start Over” button that will appear after you've gone through all the steps.
- 7) After you understand how to plot data on a logarithmic graph, plot the data points you've accumulated from the bacterial growth lab on the graph paper handed out to you.
- 8) Look at the different curves you have plotted. Do you see a correlation between the initial population, growth parameter, and the shape of the curve?