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| Density Lab grading sheet Due Monday September 28, 2015 |

**First Name\_\_\_\_\_\_\_\_\_\_\_\_Last Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Your Partner’s Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| Data  (4 points) | 1. Get data by looking at class data at genest.weebly.com “LAB BLOG”. 2. Girls do one data table for iron and one for aluminum.   Boys do one data table for silicon and one for zinc   1. Put your data table on your own paper, computer paper, or scratch paper. 2. Make your data table have just two columns. Make your X column the **independent variable**. Make your Y column the **dependent variable**. 3. Your data tables should have ten points per substance. |  |
| Graphing  (7 points) | 1. Follow the steps on our handout ‘Rules for Good Graphing’, (see back of this sheet). 2. You will especially be graded on the letters a,b,c,d,e,f,g,h,I which are on that instruction sheet. |  |
| Slope  (3 points) | 1. For each graph, on your own paper, calculate the slope of your best fit line that you drew. 2. Write a “For every…” sentence. |  |
| Submitted in this order  (1 point) | 1. This grading sheet stapled on top 2. Your graph stapled behind it. 3. Staple the data table last. 4. Filled in name, partner name, period. |  |

Maximum Score = 15 points (equals three homework assignments)

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| Total score |  |

Rules for Good Graphing

For full credit, pay special attention to all the parts that are underlined.

1. **Label each axisa\*\* and indicate the units used.**

**Independent variablesb\*\*** are labeled on the horizontal (x) axis.

Variables that change because of changes in the independent variable are called dependent variables.

**Dependent variablesc\*\*** are labeled on the vertical (y) axis.

Every label MUST have a unit attached to itd\*\*. The unit is usually **written in parentheses** next to the label. [e.g. Time (s), Length (mm), Weight (N), etc.]

1. **Choose an appropriate scale** that allows you to get all data on the graph.

Usually begin the scale at zero BUT in science, be flexible. Sometimes you can skip this rule.

Check the largest and smallest values to determine the range for each axis.

Do the following calculation somewhere where the teacher can see ite\*\*:

(maximum value you need to graph)  (paper squares available) = minimum increment.

Each line of graph will need to be BIGGER than this minimum increment

To avoid wasting paper, choose a scale which will spread your data out over MORE THAN half of the paperf\*\*. By doing this you magnify your data and make it easier to read.

1. **Choose a convenient scale.**

A graph is easier to read (and plot) when each square represents a value of 1, 2, 5, or a multiple of ten times these numbers: 10, 20, 50, or 0.2, 0.5.

Maintain the same scale for the length of the graph.

1. **Locate points with a dot with a small circle around itg\*\*.**

The small dot enables you to precisely place the point.

The circle around the dot enables you to highlight the point so that it is not lost or mistaken for a stray mark.

1. **Draw a smooth curve or straight lineh\*\* to represent the general tendency of the data points.**

Use a transparent straightedge.

About half of the points should be above and half below the line you drawi\*\*.

Data points based on experimental measurements have uncertainty associated with them.

The smooth line that you draw shows what the data would look like IF THERE WERE NO ERRORS IN YOUR MEASUREMENTS.