**Comparing Units**

**Shape \_\_\_beaker**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Volume (mL),  x | Height  (cm) | Calculated Volume (cm3), y |
| 1 | 100 | 2.4 | 96.25 |
| 2 | 150 | 3.9 | 146.3 |
| 3 | 200 | 4.5 | 196.35 |
| 4 | 250 | 5.1 | 240.62 |
| 5 | 300 | 6.2 | 289.135 |

**Write the linear equation of the trend line from the TI Nspire calculator:**

**example: y = 0.9602x + 1.695**

**Sketch the graph of the TI-Nspire and include the the origin (0,0) and label the y intercept on the graph, example:**

**b = 1.65**

* **Do the 5% rule test:** 
  + **example: 5% x 289 = 0.05 x 289 = 14.45**
* **Write the following and fill in the blank with either is or is not:**

**The y intercept \_\_\_\_\_\_\_\_less than 5% of the maximum value of y.**

* **In our example above, 5% of 289 = 14.45. Our y intercept of 1.65 is less than 14.45 so we would write:** 
  + **The y intercept is less than 5% of the maximum value of y.**
* **If b ( the y intercept) < 5% of the max y value rewrite your equation y = mx (fill in value of m) below your statement about the 5% from above.**
* **example: y = 0.9602x + 0 *or* y = 0.9602x**

Conclusion

1. Address the question or purpose of your experiment.
2. Describe the experiment
3. State the results (how the independent variable effected the dependent variable).
4. Support your group’s model with some of the evidence listed below. Explain how your model consistent with:
   1. the data – trends in the data; Range of independent variables (was it large enough and was it a sufficient range for this experiment) and consistency of the independent values (could you reproduce the data and does this give you confidence in your ability to make conclusions).
   2. the observations
   3. the graphs (particularly the sign and value and interpretation of the slope),
   4. algebraic representation (interpretation of the y-intercept based on the 5% rule calculation, interpretation of the correlation, significance of the slope)
   5. diagrammatic representations where appropriate
5. Accept or reject prediction (if one was made), including a brief discussion of reasoning. Remember it is okay if your prediction was originally incorrect.

**REFLECTION: (it should be related to class and why it is important)**

1. What did you learn? Why is that important? What is the scientific significance of the models? How does that relate to class? (application to society)
2. What would you do differently next time? Why? (if you mention errors be specific about what caused the errors)