**Making Scientific Tables**

1. All tables must have a number and a descriptive title. The tables should be numbered in sequence so that the reader can easily navigate your report. For example, Table 2: Number of oxygen bubbles counted across CO2 concentration levels. Note that this title provides a lot of information to the reader about the data presented in the table.
2. All columns in a table must have a heading, such as “Number of bubbles” or “Mass of soil.”
3. Units should be indicated in the column headings. For example, “Mass of seeds (grams).” **This is very important and is often missed by students.**
4. The independent variable (IV) is usually placed in the first column down the left side of the table. The dependent variable (DV – your recorded data) is usually placed in subsequent columns across the rows.
5. Errors or uncertainties should be included in the column headings or in a separate column. Uncertainties are calculated as ½ of the smallest unit measurable by the instrument being used. For example, a thermometer that is graded to 1 degree Celsius has an uncertainty of 0.5 degrees C.
6. Within a column, all data must be shown with the same number of significant digits. You should limit your significant digits to the least precise number. For example, if the data collected was 2.6, 2.89, and 4.453, you should just use two significant digits and the numbers in your table should be rounded to 2.6, 2.9, and 4.5. **This is another problem area for students, so please be careful when entering your data.**
7. Use scientific notation when appropriate, such as 3.8 x 105.
8. Qualitative observations should be included in a separate column or as notes appended to the table.
9. You should design the experiment with a plan to collect data for at least 5 trials per treatment. This will help keep your standard error low.

10. Data in processed data tables should be processed in a way as to fully test the hypothesis or fulfill the aim of the experiment. Data should not be processed just to fill space. Your processing should target the relevant information.

1. Numbers placed in a processed data table should be derived from some calculation as opposed to the raw, unprocessed data from the previous section. For example, calculating means for different treatment groups.
2. Decimal places or significant figures in the raw data should be carried over to the processed data. You cannot have processed data to 3 decimal places when you have raw data to 1 decimal place.
3. When including statistical tests, you should indicate the statistical values that are significant and those that are not. You should also indicate the level of significance, for example, p < .05.
4. You should show an example of the calculations from your processed data table. Place the example below the data table and use a different font to distinguish it from the rest of the report. Make sure you use the correct number of decimal places and significant figures. For example, if you calculated the mean, you should have a brief explanation and a sample calculation below the table, such as:

Means were attained for each type of species using the following calculation:

Mean = X1 + X2 + X3 + X4

Mean = 5 + 7 + 12 + 8

Mean = 8