**Experimental Design Project MASTIN 2018**

**\*DUE DATES: May 16th, 17th, and 18th**

***\*Two test grades worth 100 pts each***

***\*One test grade is for Experimental Design and the other is for the presentation of the Experimental Design***.

**What is an experimental design?**

 -An *Experimental Design* is the laying out of a detailed experimental plan in advance of doing the experiment. In an experiment, we deliberately change one or more process variables (or factors) in order to observe the effect the changes have on one or more response variables.

**What are you required to do?**

Pick a partner or choose to work independently. You will be tasked with coming up with a hypothesis that relates to one of the chemistry topics we discussed this year and testing it. You will also communicate your results and draw conclusions based on your findings. Your entire experimental design will be displayed on a professional presentation board. You will be required to present your experimental design on a predetermined date to the class.

**What are the specifics?**

**\*Experimental Design/ Presentation Board:**

-**Research, Research, Research**- pick a chemistry topic that interests you and develop a hypothesis that is feasible to test within the next 2-3 weeks. You need to get your hypothesis approved by Ms. Mastin by **Wednesday May 2nd.** This will account for 10 pts of your experimental design test grade. You will be required to include a background section on your presentation board, so the research you do here will be essential in composing a comprehensive overview of what you are testing.

-Design your experiment- come up with an easy-to-follow procedure, that is reproducible, that you and your partner will be able to carry out multiple trials, in order to create a dense data collection.

-**Organize your data/results**- you need to have data tables, charts, graphs, pictures, etc., to display your data effectively on your presentation board. It should be neat, easy to understand (have captions for each data table/ graphic), and aesthetically pleasing.

-**Methods**- procedure needs to be detailed and easy to follow, so that it can be reproduced by others. Materials used need to be included here. Make sure you have easy access to these materials, so that you can test your hypothesis.

**-Analysis/Discussion**- Interpret/analyze your results. Draw conclusions. Was your hypothesis supported? Explain. Was the purpose of the investigation fulfilled? Discuss any possible sources of error.

**-References/ Acknowledgements**- Use MLA format (this should be on display board).

**\*Presentation:**

-10 min minimum and 15 min maximum.

-You must use your presentation board as your visual during your presentation.

-Be clear, organized, and professional.

-Practice, practice, practice!

**Display Board Layout:**

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