PJAS Guidelines

As a student of Notre Dame of Bethlehem School you will be creating a proposal for PJAS and performing a scientific experiment according to the guidelines for the Pennsylvania Junior Academy of Science. The project must be in the following PJAS categories: Physics, Astronomy, Biology, Biochemistry, Botany, Ecology, Microbiology, Zoology, Chemistry, Engineering or Earth Science. Information beyond these basics will be discussed in class. Mrs. Iobst has hundreds of possible project topics to share.

All students are strongly encouraged to present their work at the PJAS Regional Meeting at Northampton Community College on February 26th. Any student with a first place win at NCC is eligible to attend the PJAS State Meeting at Penn State University, May 15th – 17th.

Here are some deadlines to help you organize your work.

Tuesday, October 12, 2021 **MUST BE WORD PROCESSED**

* **Signed Parent Form Due**
* Project Title, Category, Independent Variable, Dependent Variable, Controlled Variable, Materials needed. Quiz Grade
* **If you plan to present at NCC the PJAS registration form due including $10.00 due to Notre Dame School. No refunds.**

\*\*Any projects requiring special forms are due November 1st – Behavioral & Micro

Monday, November 8, 2021

Research proposal due, including research (see handouts) Test Grade

Monday, January 3, 2022

Full Project Report (see handouts) Test Grade

**February 26, 2022- PJAS Regional Meeting- 10 minute MAXIMUM oral presentation- Northampton Community College – time TBA**

Third Trimester:

**May 15 - May 17, 2022 – PJAS State Meeting Penn State**

**\*\*At this time events have been planned for in person presentations. This is subject to change with Covid – 19 mandates.**

**Research Proposal**

**Use passive voice. Avoid the use of I**

**1. Introduction (10 points)**

 **-this should include a general statement of the object of your study and experimentation including:**

 **a. what is being studied**

 **b. why was it chosen**

 **c. why this is a worthwhile question to study**

**2. Summarize your research (60 points)**

 **-this should include:**

 **a. describing the science behind the project**

 **b. other experiments done on the topic-science journals are a challenging but**

 **impressive way to do this**

 **c. any reading you have done on your project**

 **d. any websites you researched related to your project**

**3. Materials and Methods (10 points)**

 **- procedure in clear steps**

 **-any materials needed**

 **-what data you anticipate needing (show possible charts and graphs)**

 **-describe any statistical analysis you plan to use**

**4. State your hypothesis clearly in “if, then” form. (10 points)**

**5. Include a bibliography of all your research sources. (10 points)**

**Due Monday, November 8, 2021**

**Final Report Grading Rubric**

**Please print out the following:**

 **a. Title page (5 points)**

 **b. Introduction (5 points)**

 **c. Research Summary (15 points)**

 **d. Materials List (5 points)**

 **e. Procedure (5 points)**

 **f. Hypothesis (5 points)**

 **g. Results- a table listing all the data and observations. The date(s)**

 **that the experiment(s) was/were performed should be included.**

 **If at all possible graph your data. (25 points)**

 **h. Conclusion – did the data support the hypothesis? What did you learn?**

 **Do not forget to include sources of error. (25 points)**

 **i. Possible extensions of your project for the future (5 points)**

 **j. Bibliography (5 points)**

**Due Monday, January 3, 2022**

**If you plan to present your project at the regional meeting you will prepare a Power Point to be saved on a flash drive. More info to follow. It is recommended that you not start the Power Point until your paper is returned.**

**Your presentation may be a MAXIMUM of 10 minutes. You must use METRIC MEASURES. If you speak longer than 10 minutes or do not use metric you will not be awarded a first place at either the regional or state meeting.**

**This is a general break down of points for this project at the various stages. Please refer to the rubric for more specific details of points.**