

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. lobst 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 23rd. Any student with a first place win at NCC is eligible to attend the PJAS State Meeting at Penn State University, May 19th – 21st.

Here are some deadlines to help you organize your work.

Wednesday, October 10, 2018 **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 12, 2018

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

Thursday, January 3, 2019

Full Project Report (see handouts) Test Grade

February 23, 2019- PJAS Regional Meeting- 10 minute MAXIMUM oral presentation- Northampton Community College – time TBA

Third Trimester:

May 19 - May 21, 2019 – PJAS State Meeting Penn State

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 12, 2018

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 Thursday, January 3, 2019

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.

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.