

Research Project Information

4th Quarter - Spring

A) For the remaining time this 4th quarter, students are to develop a research project of their own choosing (it must be approved by Mr. C) in their area of interest. The Research Project **MUST** be centered here at school. Projects can go home nights and weekends so one can gather data. If your project involves large animals as ducks, bunnies etc. they **MUST go home weekends.**

B) **For the 4th Quarter Project - Work Students Will Need To Complete:**

1) Complete a daily activity log sheet at the beginning of class stating what you intend to do and where **AND** also at the end of class stating details of what you accomplished. This is to be recorded in a 3-ring notebook found on the front table of the class.

2) Submit a series of proposals and update checks.

3) Keep accurate figures and data concerning their daily research project measurements & observations. Data needs to be recorded daily. Data may be compiled on daily data sheets. These daily data sheets are to be submitted with your final write up as an appendix. This data record will substantiate what you did for the quarter. In addition to daily data records certain research projects may require recording an extensive Daily Journal documenting the research. Photographs & Video are highly encouraged although not required. Original illustrations & drawings are encouraged as well. Graphs & Charts of data (Growth Rate & Weight Gain/Loss) are required

4) Have good attendance - misses of data (classes) **can not be made up.** Understand that attendance counts toward your project grade.

5) Do a complete Formal Report Write Up of your project. This includes your background research, your procedure, data, analysis and conclusion. This write up must be complete and well written in order to receive full credit for the project. If this project is not well written, then the student may risk failing the quarter as this Written Research Lab will count as a major part of the Final Exam for this class.

6) **Due Dates:**

- **Formal Proposal** - Due _____
 - Explain what your project is, what you intend to do, find out etc.
 - Explain what your procedure is. Explain exactly what you plan to do.
- **Background** - Due _____
- **Revised Background** - Due _____ (**Attach original draft**)
- **Final Research Paper** - Due _____

OVER →

Animal Behavior Study Unit

End of Year Packet - Research Biology 2008

Do Not Lose This Packet

Students are Responsible for the Following:

1. Finishing any research work and then cleaning up. Return borrowed items.
2. Attending each day and measuring & recording daily data
3. Attending an Open House for families on _____ from _____ p.m.
4. Writing your research paper - Due _____. Format Information Enclosed
- 5 **Preparing** your oral presentation (information enclosed)
6. **Oral Presenting** of your report to the class (THIS WILL COUNT AS THE FINAL EXAM)

June _____

7. **Completing** your end of the year course feedback

Animal Behavior Study Unit

FORMAL PROPOSAL

****This MUST be turned in to Mr. C. by _____**

Directions: Explain what you propose to do; this is your commitment - make it complete and neat. **You must turn in this sheet.** *This is to be well done, it must be complete and it must be neat.*

1. Will you have the background (related research) ready for Mr C.? due _____??

2. State the **problem to be investigated:**

3. Explain what your **procedure will be:**

4. What **results will you be looking** (what kind of data will you be gathering)??

Animal Behavior Study Unit

Format Requirements of the Background

The background of your paper is a literary research of material that is in anyway related to the topic being investigated. This may vary from project to project so one should check carefully with your teacher. Usually, the background research should include the following:

- (1) The *Topic itself being investigated & Information about it (imprinting, color/shape recognition, problem solving, behavior journal, growth, obstacle course maze, fertilizer, light, pollution, etc) (*see below)
- (2) Written material on the animal, plant etc. that is being researched, **Use Headings**
 - Classification & Characteristics
 - Breed(s) / Variety
 - Life cycle & Breeding
 - Feed & Nutrition
 - Care & Housing
 - Maintenance
- (3) And, at least one summarization of a previously conducted research project on a related topic.
- (4) All Places you find information must be properly cited
 - Keep a complete list of all work cited to include on a separate page at the end of your Final Research Report
 - Do your citations for the Background Paper at the start or at the end of the paragraph (**see below)

***Example For Topic Investigated:** If one is going to study the imprinting of a duck, that student needs to research the following:

- (1) information on ducks, (info on all the bullets above)
- (2) imprinting, (explain all about it)
- (3) and a summarization of **at least one** previously done research project on a related research project

****Using References in the Background Examples:**

NO Footnotes. Do not use footnotes. Instead use paragraph form and put the authors name and date right in the sentence or at the end of the section cited:

Two Examples of using citations within writing:

Example #1 - **Reference at beginning of sentence or paragraph:**

- a) Research conducted by Hylander (1989) has shown OR
- b) Hylander (1989) stated (found) (determined) OR
- c) Hylander (1989) concluded from his research that

Example #2 - **Reference at end of section:**

Research has shown that the inner ear of fish can detect high frequency vibrations up to 2,752 vibrations per secondetc. (Hylander, 1989)

English Format of the Paper:

1. Use proper English and write in complete sentences.
2. Avoid use of the term "I". Write in the third person
3. Be sure to check your spelling

Animal or Plant Study Unit

Format Requirements of the Research Paper

- 1) **Title / Cover Page** (Make this attractive & neat - must be directly connected to your research)
- 2) **Name and Date** (this could be on the title page)

The following headings ARE to be Written in the paper

- 3) **Background** - This IS a necessary part of your paper. This part you were required to do the 1st week of your study. Be sure to include this as the 1st part of your research paper Did you revise your Original Background so you won't get the same points taken off?
- 4) **Problem Investigated** - One or two sentences explaining the problem to be investigated
You are not to have more than 1-2 sentences
- 5) **Methods or Procedure** - Explain your exact procedure. (Explain exactly what you did) Include Photos?
- 6) **Results** - Present your data accurately. Include observations in this section. Tables, charts, graphs, drawings, observations photographs, Video? etc. go in this section. Just DATA goes in this section. Photos?
- 7) **Discussion** - Discussion, explanations, and interpretations of the results goes in this section. In other words explain what your data means, what does it tell the researcher, what does the data show, tell you etc. Photos?
- 8) **Conclusion** - Make a concluding statement. This does NOT have to be a long section but bring your research/paper to a logical conclusion. I expect this to be very short yet very informative.

Examples -

- It can be concluded....
- From the data (observations) collected by the researcher, it can be concluded....
- The researcher concludes
- From the data and information gathered from this study, the researcher concludes.....

- 9) **Recommendations for Future Research** - Ideas that you might have that would help a future student if they were to choose the same research topic as you did
- 10) **Acknowledgments** - *Optional* - Only if you wish to acknowledge someone
- 11) **References, Sources, Works Cited, Etc.** This must be part of your paper
- 12) **Appendix** - You must attach your daily data sheets / daily journal / daily records . This is required. If not attached this results in loss of a grade. Include Photos or Video here?

Did you → Avoid use of the term "I"? . Write in the third person

Use Complete sentences to write your report.

Check Spelling - Spelling Counts - Check Spelling

Animal or Plant Study Unit

Format Requirements for the Oral Presentation

The total presentation is to be 7-10 minutes in length (this would also include questions)

DO NOT just read sections of your paper.

Take the Time & Effort To Prepare a well thought out presentation.

- **Organization:** You have 7-10 minutes. At approximately 9 minutes your time will be up. If you have NOT finished your presentation, you will be cut off because other students will have to have their class time. Practice beforehand so that you are able to finish.
- **The emphasis should be on your problem investigated, your procedure, and your results.** Finally explain what your data means (discussion) and what you concluded.
- **Be organized and prepared. This is to be taken seriously.** Your grade is based on how well prepared you are, your organization, and how it is presented as a scientific research paper.

Plan the Your Presentation to follow this sequence:

- 1) **State the Title** of your paper/research
Background-Optional. Background can be given if it is helpful to your presentation
- 2) **State the problem that you investigated** (1-2 sentences) This way the audience knows what your research was
- 3) **Explain your procedure**
- 4) **Give your results**
- 5) **Discussion of your results**
- 6) **Give a conclusion**
- 7) **Answer questions** (time permitting)

Your final (exam) grade will be based on:

- 1) Your presentation,
- 2) Any supporting information (visuals, pictures, tapes etc)
- 3) Class participation, and
- 4) Your attendance. *If your are NOT in class and have not been excused by Mr. C this will result in a grade reduction on your final exam.*

Animal or Plant Study Unit

Oral Presentation Grading Sheet

Directions: When you make your presentation this sheet is to be handed to Mr. C so it can be filled in with comments to arrive at your grade.

Problem Investigated: _____

_____ **Time and length of Presentation:** 4 -- 3 -- 2 -- 1 -- 0

_____ **Organization:** 4 -- 3 -- 2 -- 1 -- 0

_____ **Evidence of Preparation:** 4 -- 3 -- 2 -- 1 -- 0

(note cards/outline) seemed like you practiced beforehand <-----> you were just "winging" it

_____ **Explanation of Material:** 4 -- 3 -- 2 -- 1 -- 0

(Clarity, organized, delivery)

_____ **Explanation of Problem and Procedure:** 4 -- 3 -- 2 -- 1 -- 0

(Statement of your problem investigated and your procedure)

_____ **Explanation of Your Results:** 4 -- 3 -- 2 -- 1 -- 0

(Your data, findings)

_____ **Summary/Conclusion:** 4 -- 3 -- 2 -- 1 -- 0

(how you bring to closure)

_____ **Use and Display of Any Visuals:** 4 -- 3 -- 2 -- 1 -- 0

(attractive, easy to read)

_____ **Other Supporting Information, Any original (unusual) factors:** 4 -- 3 -- 2 -- 1 -- 0

(human interest, pictures, creativity etc.)

_____ **% The amount of information being read to us right from paper instead of speaking directly to us:**

4 -- 3 -- 2 -- 1 -- 0

_____ **Overall work ethic & Attitude toward this Project**

The problem was unique and it showed that the researcher was into what was being studied by doing and learning a lot treating the animal(s) with care & respect <-----> The problem was very ordinary and it showed that the investigator was not motivated to do quality work and treated the animal(s) with neglect.

4 -- 3 -- 2 -- 1 -- 0