SCIENCE RESEARCH REPORT FORMAT

GENERAL PRESENTATION & FORMAT
1. ALL reports *must* be <u>typed or computer-generated</u> and neatly printed with a clean ribbon.
2. ALL reports should be in a 3-hole binder with a have a neat, clean cover page.
3. The main report *must* be <u>double-spaced</u> but graphs and tables may be single-spaced for easier reading.
4. Page numbers should be centered at the BOTTOM of each page, beginning with "Introduction."

MAJOR SECTIONS OF THE REPORT, IN ORDER

I. TITLE PAGE (see handout, repeat format)

II. ABSTRACT (*ONLY* ONE PAGE; 250 words)

    A. The abstract should give the reader an idea of what your report contains and gives them a picture of what will follow. It should be a good introduction to the whole body of work. *Writing a clear, concise abstract is an art!*

    B. A BRIEF summary of your report*, including the nutshell of your results and conclusions.* This is *not* an ad to explain why you did your project!

    C. Make sure to include the <u>*dates and location*</u> of your project data collection.

    D. Write the abstract *last*, after all your results and analysis are finished. The abstract does *not* get a page number!

III. INTRODUCTION

    A. In the introduction of the paper, state the nature of the problem to be addressed, the objectives of the study, and any hypotheses to be tested. Also, give a brief background for the study, which would typically include a brief review of the literature. Relate the problem and its significance to the general discipline of study. This part of the paper presents the background, justification, and relevance of your study.

    B. *A minimum of 3 different sources must be used* or as directed by your teacher. Please use a variety of sources – not just from the Internet!

    C. All the information you learned from someone else needs to be "cited" in the Introduction - like writing footnotes. <u>Citations are mandatory </u>in a research report*! (See the handout: Citing Scientific References)*

IV. MATERIALS AND METHODS:

This section should be written in paragraph form and NOT be a numbered list of steps. Describe EXACTLY what you used to do your research (binoculars, scope, boat, snorkeling gear, etc.) "Eyes," "pencils" are unnecessary.

Methods for research should be detailed enough for the reader to have an accurate idea of what was done in the study. Give a good enough description of materials, sampling dates, locations and methods used so that a reader could duplicate your investigation. Including a simple diagram or photograph of the setup, properly labeled. The details of standard and generally known procedures (such as how an item was weighed) should be kept to a minimum. In a field study, a general description of the study site is *required*, complete with site maps. If commercial computer software is used, cite its full name and indicate the version used. The type of statistics used to analyze your data should be included and cited. ***DO NOT NUMBER your procedures.***

V. RESULTS

The results section is not just a data summarization or a collection of tables and figures*; it should contain an explanation and description of the data, including any qualitative observations you made during the study.* Tell the reader exactly what you found, what patterns, trends, or relationships were observed. Illustrations in the results section may consist of graphs, photographs, or diagrams that visually depict your results. See the ***additional handout*** for proper data table and graph formatting.

VI. DISCUSSION

In the results section of the paper, the data are summarized and described. In the discussion section, they should be interpreted, critically evaluated, and compared to other reports. Whereas the results section presents the "news," the discussion section contains the "editorial." In the discussion, examine the amount and possible sources of variability in your data, including experimental error. Clearly state whether your it seems you're your hypothesis was valid or invalid. Examine your results for bias and evaluate its effect in data interpretation. Develop arguments for and against your hypotheses and interpretations. *Do not make generalized statements that are not based on your data, known facts, or reason.* Be sure to relate your findings to other studies and cite those studies. Draw positive conclusions from your study whenever possible.

Poor example: (no specific information is given to the reader)

The food habits of various amphibians were studied in detail by the authors. The data were analyzed statistically and the findings were discussed at length. Certain similarities and differences were found between the species studied and the habitats in which they were found. Conclusions about feeding habits, habitat relationships, and niches were made for these species.

Good example:

The stomach contents of the red eft, red-backed salamander, and dusky salamander living in the same area were identified. An analysis of the food eaten shows that the feeding habits of the red eft and the red-backed salamander were different. Only 30% of the food eaten was the same, mainly insect larva. These two salamanders showed "niche segregation."   These two salamanders ate similar food (up to 85% the same) when living in different areas but fed on different food when the two species lived in the same area. Our hypothesis was valid.

VII. References Cited*: (the references you used and referred to in your paper)*

No comprehensive literature survey is required for a class research report; however, you will be expected to use some sources other than a textbook or the Internet (such as technical journals and reference works), These sources should be cited in the body of your report. It is up to you to select the most useful references. All references given in your paper must appear in the *References Cited* section. See the ***additional handout*** for proper style.

VIII. Appendices (any additional pictures and/or material you wish to include)

    A. Make sure any appendices *are listed in the table of contents* (with page numbers).

    B. <u>DON'T stuff this section unnecessarily</u> - it will not win you points...