SCIENCE RESEARCH REPORT INTRODUCTION

Scientific research involves designing a study, collecting samples, measuring variables, analyzing data, and presenting the results in a formal report. The writing process makes the author think more deeply about the study. Accurate, clear, and concise writing is necessary for proper communication among researchers, teachers, and students. A scientific report provides a writing experience different from a library term paper because it is based on your own data and personal involvement in the experiment.

BEFORE YOU BEGIN: HINTS ON SCIENTIFIC WRITING: The following general guidelines should be used:

1. **Avoid long, involved sentences and overuse of long words**. Long, run-on sentences often confuse your meaning. Check for too many commas and conjunctions ("and," "but," "or"). These often connect clauses that can be more clearly separated into two or more sentences.
2. **Avoid lots of abbreviations** such as "etc." and phrases such as "and so on" or "and the like."
3. **Keep specialized "scientific" words to a minimum.** If common terminology is just as accurate, use it. The use of too much Latin should be avoided. If acceptable common names exist for organisms, introduce them together with the Latin names and afterwards use the common names. Otherwise, identify the Latin names. Whenever Latin genus or species names are written, they should be either *italicized* or underscored.
4. **Keep technical abbreviations and acronyms to a minimum**. A statement like this may be difficult for someone who is not a scientist to understand: "The results of the ASTM procedure for BOD were correlated with measurements of DO and JTU and compared to EPA standards." *Define abbreviations and acronyms the first time they appear in your paper.*
5. **Avoid repeating facts and thoughts.** Decide in which portion of the report different statements should be placed and do not repeat them elsewhere.
6. **Be concise and succinct.** For example, say "many species" rather than "a large number of species," and say "because" rather than "due to the fact that." Include all that is necessary, but don't pad the report with stuff that has nothing to do with your study.

GENERAL PRESENTATION & FORMAT

1. ALL reports *must* be typed or computer-generated.
2. ALL reports should have a neat, clean cover. Bindings should be 3-hole, not "slip-on" style.
3. The main report *must* be double-spaced but graphs and tables may be single-spaced for easier reading.
4. Mixing pen and typing within a report is unacceptable.
5. Page numbers should be centered at the BOTTOM of each page, beginning with "Introduction."
6. BE CAREFUL in following the format - make sure ALL sections are included, in order and properly labeled.

INTRODUCTION

A. This section of your paper presents the background, justification, relevance and hypothesis for study.
   - In the introduction of the paper, state the problem you are trying to solve and WHY this problem is important to study.
   - Relate the problem and its importance to the science field you are studying.
   - Then research your problem in books, the Internet, in magazine and journals to find what other scientists have found about your problem, animal or human subjects and the variables you will be studying.
   - Find good diagrams or drawings that can more clearly explain your problem and insert them into your introduction where you feel they make the most sense. Keep graphics to a minimum!
   - Later on in your analysis, you will compare your own data to the information in your introduction.
   - If applicable, state your hypothesis in an "if – then" statement.

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. Citations are mandatory in a research report*! (See the handout)*

Reference Cited*: (the references you used and referred to in your paper)*

You will be expected to use some sources other than a textbook (such as books, internet sites, magazines and science journals), These sources should be cited in your introduction. 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 APA style.