

These are the grading criteria that all TAs will use to grade your final reports. They are derived from the description of scientific papers on page 65 – 67 in the class handbook.

REMEMBER to include your proposal when you hand in your final report!

Title (5pt) Is informative and gives a clear indication of the subject of experiment. Graded as all or none (i.e. –5 for insufficient or irrelevant title).

Abstract (5 pt)

A *complete* summary in 2 brief paragraphs or less.

Introduces the topic, mentions the experimental approach, summarizes the results, and reports the **biological** significance of the conclusion. Two points will be deducted for any aspect that is missing, up to 5 pt.

Introduction (25)

Develops a context in the literature on the subject of the experiment (not just general information about pollination biology or foraging theory). 8 pt

Establishes a logical link from what is known in the literature to the hypothesis to be tested. 6 pt

Makes 2 citations from the PRIMARY literature relevant to the topic of the research (not methodology or marginally related work). 4 pt

Includes an explicit statement of what hypothesis will be tested. 2 pt

Clearly written, not carelessly thrown together so that it's difficult to follow. 5 pt

Materials and Methods (15pt)

Sufficient to permit repeating the experiment exactly.

Complete, clearly written, organized, and written in the past tense. 5

Describes what statistical procedure was used and explicitly what it was used for (e.g. "I used a t-test to analyze my data" is not sufficient, "I used a t-test to compare the average visit length between scented and unscented flowers" is). 5 pt

Adequate data was collected – rule of thumb: at least 40 total observations (visits or intervals) for optimal foraging studies, minimum of 10 observations/treatment for others. 5 pt

Results (15)

A complete data summary including at least means, standard deviations, and sample sizes for t–test data, frequency distributions for Chi-square data. 5 pt

Reports the results of the statistical test (including test statistic value and whether it was significant) 3 pt

Includes a clear narrative description of results not just tables and figures 2pt

Tables and Figures are clearly numbered and labeled, and all abbreviations are defined. Each figure or table should have a complete legend 5 pt

Discussion (30)

Focuses on the hypothesis presented in the introduction (though additional hypotheses may also come up) 5 pt

Logically compares results with those of at least one other related study in a meaningful way 18 pt

if results are similar, describes what new insight the study provides

if results differ, proposes and discusses a biologically based idea for why they differ that is consistent with the results presented

Suggests explicit directions for future research (not just “more work is necessary”) 5 pt

Is clearly written and logically organized. 2

Literature Cited (5)

This should be a piece of cake by now. Two points will be deducted for any infraction up to a total of 5 points.

Don't forget the 3 strikes rule: If the reader finds 3 errors that should have been caught in proofing, one letter grade is deducted. Ten more are deducted if the reader finds 3 more, and so on.

Overall organization: Points (5) will be deducted for material that is missing from a section, even if it is included someplace else (e.g. 5 points deducted if the statistical procedure is introduced in the results section). Points (2) will also be deducted for material that is in the wrong section unless there has already been a deduction for that same material being missing from the appropriate section. For example, if there is discussion included in the results section, but it is repeated in the discussion (or not required) 2 pt will be deducted).