

OLLR - Title of Experiment

_____/2 Complete Lab Title (WQI stated, SC vs BL)

OLLR - Section 1: Intro/Background/Hypothesis

_____/22 Section I: Introduction & Hypothesis

_____(2) An introductory sentence is made that specifically states the problem (focus "question") of the lab (WQI, SC vs BL, must lists all sites).

_____(3) States Water Quality Index (WQI). Gives brief history of WQI. List tests.

_____(5) Explains WQI: 9 test results--> 9 Q-values --> multiplier --> add Totals --> WQI.

_____(2) Original hypothesis is stated in terms of WQI range.

_____(5) Identify independent (test types/site location) & dependent variables (test results/WQI value), weather is uncontrolled variable.

_____(3) Support for hypothesis (general observations - fish, frog, macroinvertebrates in relation to pollution tolerance levels, no eutrophication seen, creek (movement) vs. lake (stagnant))

_____(2) Assumptions (test is a valid standard used by environmental scientists, lack of experience & large team coordination, variable weather conditions)

OLLR - Section 3: Data Collection/Observation

_____/1 Appropriate data table made which includes: 9 tables --> Q-values --> multiplier --> WQI

OLLR - Section 4: Analysis of Data

_____/5 Appropriate BAR graphs (WQI/Q-values) made which includes: (0.5 pts per graph)

____ WQI vs sites

____ Q-value each test vs. sites...9 graphs

____ A complete title that gives the purpose of the investigation.

____ Labels that identify x-axis and y-axis.

____ Appropriate type of graphs.

____ Scale set at 0-100.

OLLR - Section 5/7: Data Summary/Conclusion

____/8 Conclusion Introduction

____(1) Introductory sentence specifically restates the problem (focus/objective) of the lab

____(1) Statement made about what was done in the lab

____(2) Statement made of type of info graphed and measurements made

____(2) Independent and dependent variables

____(2) Independent variable manipulation (SC running water vs BL still water and why?)

____/5 Hypothesis

____(2) Restate original hypothesis in terms of WQI and WQR.

____(1) Statement made accepting/rejecting hypothesis.

____(1) Actual data is used to support accepting/rejecting hypothesis.

____(1) Connection to scientific concepts/information/**macroinvertebrates** is used to support accepting/rejecting hypothesis.

____/45 Interpretation is developed consistent with background information (test explanation - what is it & how does it get in the water) & actual data/observations (Q-values) & comparative analysis of SC vs BL.

____(5) Dissolved Oxygen (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) pH (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Δ -Temperature Change (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Fecal Coliform (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Biological Oxygen Demand (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Nitrates (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Total Phosphates (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Total Dissolved Solids TDS (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____(5) Turbidity/Total Suspended Solids TSS (explanation of what the test or particle is, how does it get in the water, Q-values of locations, water rating based on Q-value, comparative analysis of SC vs. BL with interpretation)

____/3 Suggestions

____(1) More locations (Arlington Park, Algonquin Rd)

____(1) Seasonal or monthly testing

____(1) More trials

____/10 Connections & Errors in relation to your results!

____(3) Fecal Coliform & BOD & DO

____(2) Nitrates/Phosphates & Eutrophication

____(2) TDS/TSS levels and limited runoff(drought) or excessive runoff(rains) affecting results

____(1) Repeat any specific related tests that do not make sense (_____)

____(1) Weather is uncontrolled variable affecting data, NOT an error!!!!

____(1) Errors - limited experience & accuracy, BL and TSS

OLLR - Section 6: Communication of Procedures and Results

____/4 Communication of Procedures and Results

____ (1) The lab report is clearly communicated using appropriate vocabulary recently acquired in the lab and from the researched background information.

____ (1) Lab report is neat, appropriately organized, and when applicable prepared using a word processor.

____ (1) The lab report is free of grammatical and spelling errors.

____ (1) Works cited.