Unit 4 Grading Rubric

The Biology General Grading Rubric provides a consistent framework for evaluating student work, including this virtual lab report. It emphasizes clarity in scientific explanation, correct structure, accurate data interpretation, and proper use of biological vocabulary. Each report will be assessed on scientific accuracy, completion of all required sections, and quality of communication.

Grading Rubric for Unit 4 Lab – 100 Points

Criteria	Excellent	Good	Needs Improvement	Below Expectations
Structure & Organization (20 pts)	**20 pts** All required sections present, ordered per format, clear headings; single PDF, correct filename.	**15 pts** All sections present; minor labeling/format issues.	**10 pts** Some sections missing or out of order; formatting unclear.	**5 pts** Lacks structure; multiple sections missing.
Scientific Concepts (30 pts)	**30 pts** Accurate use of terms: autotroph/heterotroph, glucose, ATP, glycolysis, aerobic vs anaerobic, Krebs cycle, ETC; correctly explains how light affects net O_2 and the compensation point.	**20 pts** Mostly accurate; minor errors or vague spots.	**10 pts** Basic/partial explanations with noticeable gaps or misuse of terms.	**5 pts** Limited understanding; major inaccuracies.

Data Table, Graph & Observations (20 pts)	20 pts Table complete for **six** light levels (0–100%); includes O_2 at 0 min, O_2 at 60 min, ΔO_2 (to 0.1 mg/L); constants held (Fish 3, Plants 2, Temp 25 °C, White light); single graph Light (%) vs ΔO_2 with axes/units and compensation point marked; required screenshot included.	15 pts Data mostly complete; small rounding/labeling errors; graph present with minor issues.	10 pts Data missing for ≥2 levels or ΔO_2 not shown; graph incomplete or unlabeled; constants not fully controlled.	5 pts Data or graph largely missing/incorrect.
Hypothesis & Analysis (15 pts)	15 pts Testable hypothesis; analysis explains trends with specific data, identifies limiting factors and compensation point.	10 pts Hypothesis stated; analysis links data to trends but lacks specificity.	5 pts Hypothesis vague/unrelated; analysis superficial.	0 pts No hypothesis or analysis.
Reflection & Conclusion (10 pts)	10 pts Thoughtful reflection with a real-world link (e.g., aquarium balance); concise conclusion cites key ΔO_2 values and connects light → glucose → ATP.	6 pts Basic reflection; conclusion summarizes findings.	3 pts Brief or unclear reflection/conclusion.	0 pts Missing.
Grammar & Formatting (5 pts)	5 pts Clear, coherent writing; minimal errors; consistent voice; proper citations.	3 pts Some errors but meaning clear.	2 pts Several errors; inconsistent style.	0 pts Frequent errors that hinder understanding.

Plagiarism Policy Reminder
All work must reflect the student's original effort. Lab reports must be written independently using the

provided materials. Any copied text, use of unauthorized tools (including AI), or failure to paraphrase appropriately will result in a violation of the academic integrity policy and possible consequences.