Rubric: If I were a fish, where would I like to hang out?

Criteria	5 – Excellent	4 – Good	3 – Satisfactory	2 – Needs Improvement	1 – Inadequate
Hypothesis	Clearly formulates a testable, specific hypothesis directly related to fish swimming preference and sediment type, with sound scientific reasoning.	States a testable hypothesis related to the topic, but with minor lack of specificity or clarity.	Hypothesis is somewhat testable but vague or not fully aligned to variables.	Hypothesis is unclear, not testable, or poorly related to the experiment.	No hypothesis stated or hypothesis is unrelated to the experiment.
Experimental Design	Designs a thorough experiment with well-defined independent, dependent, and controlled variables; includes appropriate controls and ethical considerations.	Designs a clear experiment with most variables identified; controls and ethics mostly addressed.	Experiment design includes basic variables but lacks some controls or ethical considerations.	Experiment design is incomplete or variables are poorly identified; ethics not addressed.	No clear experimental design or variables; ethical considerations missing.

Data Collection & Recording	Collects comprehensive quantitative and qualitative data accurately; data is well organized in tables and graphs.	Collects relevant data with minor inaccuracies; data presentation is mostly organized.	Data collected is minimal, with some inaccuracies; data presentation is somewhat organized.	Data collection is incomplete or inaccurate; data poorly organized or missing tables/graphs.	Data collection is absent or entirely inaccurate; no data presentation.
Analysis of Results	Effectively analyzes data; identifies clear patterns and relationships; uses evidence to support conclusions.	Analyzes data adequately; identifies some patterns; evidence mostly supports conclusions.	Basic data analysis; limited identification of patterns; conclusions somewhat supported.	Analysis is weak or inaccurate; conclusions lack clear support from data.	No meaningful analysis or conclusions from data.
Conclusion	Draws well-supported conclusions that directly address the hypothesis; discusses implications clearly.	Conclusions address hypothesis and are mostly supported by evidence.	Conclusions are stated but only partially supported by data or somewhat address the hypothesis.	Conclusions are unclear, unsupported, or do not relate to the hypothesis.	No conclusion or conclusions contradict the data.

Discussion of Limitations & Errors	Provides a thoughtful discussion of limitations and potential sources of error, with suggestions for improvement.	Discusses some limitations and possible errors; offers basic suggestions for future research.	Mentions a few limitations or errors; suggestions for further research are minimal or unclear.	Limited or unclear discussion of limitations/errors; no suggestions for improvement.	No discussion of limitations, errors, or future research.
Suggestions for Further Research	Proposes insightful, relevant, and feasible ideas for further research building on experiment findings.	Suggests relevant ideas for further research with some feasibility.	Provides basic or general suggestions for further research.	Suggestions are vague, irrelevant, or not feasible.	No suggestions for further research provided.
Communication & Presentation	Presents information clearly and logically; uses scientific language accurately; visuals enhance understanding; ethical considerations are explicitly stated.	Communicates clearly with minor lapses; scientific terms mostly accurate; visuals mostly clear.	Communication is adequate but may lack clarity or scientific precision; visuals somewhat helpful.	Communication is unclear or disorganized; scientific terminology is often incorrect; visuals lacking.	Presentation is confusing, incomplete, or lacks scientific language and visuals.

Note: Teachers should review student work closely to ensure accurate assessment, especially for data analysis and scientific reasoning.