Science Methods Rubric rev 130824

| **Outcome** | **Level = 0** | **Below Basic = 1** | **Basic = 2** | **Proficient = 3** | **Advanced = 4** |
| --- | --- | --- | --- | --- | --- |
| **Students will design experiments.** | Submitted assignment but failed to do this. | -Hypotheses: untestable -Procedures: not useful -Links to outcomes: absent | -Hypotheses: mostly testable-Procedures: useful in part-Links to outcomes: partial | -Hypotheses: clearly testable.-Procedures: useful -Links to outcomes: clear and well stated | -Hypotheses: testable & original-Procedures: effective -Links to outcomes: well developed and stated |
| **Students will conduct experiments and collect data.** | Submitted assignment but failed to do this. | -Experiments: incomplete -Data: unusuable | -Experiments: complete -Data: usable but with issues-Independence: needed significant instructor help  | -Experiments: complete-Data: useful but not perfect -Independence: modest assistance needed from instructor | -Experiments: complete, original-Data: lovely -Independence: minimal assistance needed |
| **Students will represent and analyze data.** | Submitted assignment but failed to do this. | -Tables and graphs: absent or very poor-Data analysis: missing or incorrect | -Tables and graphs: OK, but with some issues -Data analysis: partially complete or correct | -Tables and graphs: well done, with just minor problems remaining. -Data analysis: nearly all correct and complete | -Tables and graphs: excellent -Data analysis: excellent; any errors or omissions are minor |
| **Students will draw conclusions based on data.** | Submitted assignment but failed to do this. | -Conclusions: missing or inappropriate -Reasoning: missing or incorrect | -Conclusions: incomplete or flawed -Reasoning: present but not fully developed | -Conclusions: complete & correct -Reasoning: correct and well stated. Only some complex or contradictory data may not be handled completely.  | -Conclusions: complete and correct; even insightful. -Reasoning: correct and well stated. Even complex or contradictory data is handled well.  |
| **Students will work effectively in teams.** | Submitted assignment but failed to do this. | -Individual contributions: some -Role in team: minimal; the team is carrying the individual. | -Individual contributions: reasonable -Role in team: modest; restates ideas contributed by others rather than advancing new ideas; may be at odds with the efforts of other members. | -Individual contributions: full share -Role in team: full partner; shares in the organization and management  | -As level 3, but also-Role in team: actively engages teammates to advance team goals; provides useful suggestions; helps keep others focused and making positive contributions. |