

GLOBE Learning Expedition (GLE) Science Competition Rubric 2014

(48 Points Possible) See the document "2014 GLE Student Investigation Report Format" for more information

Score	Unsatisfactory - 0	Needs Work - 1	Fair - 2	Good - 3	Superior - 4	Score
1. Abstract	No abstract is present.	A very brief abstract is present, but is incomplete. The abstract either does not summarize the report or exceeds the designated word limit.	An abstract is present, but is incomplete. The abstract either does not summarize the report or exceeds 200 words.	An abstract that summarizes the report is present. Abstract states the problem, questions asked, objectives set, conclusions made, and recommendations for a way forward, although one of the areas may not be clear. Abstract follows designated format and does not contain more than 200 words.	A well-written abstract that summarizes the report is present. Abstract clearly states the problem, questions asked, objectives set, conclusions made, and recommendations for a way forward. Abstract follows designated format and does not contain more than 200 words.	
2. Research Question(s)	No research question(s) is (are) asked (disqualification of paper) or research question(s) is (are) not student-led.	Student-led research question(s) is (are) asked, but is (are) not clearly explained, has an obvious answer, does not require scientific research to be answered, or is (are) clearly beyond the scope of such a report. No background information is included.	Student-led research question(s) concerning some aspect of Earth's environment is (are) asked and explained. A brief description of background information is included. The question(s) is (are) answerable through scientific research appropriate to the scope of this report, but the question(s) is (are) not particularly clear, insightful or relevant.	Student-led research question(s) concerning some aspect of Earth's environment is (are) asked and explained. A brief description of background information of why the question(s) is (are) important is included. Answering the question(s) requires a thoughtful research plan, and the question(s) is (are) of scientific interest.	Clear, creative, and student-led research question(s) concerning some aspect of Earth's environment is (are) asked that will provide significant insight into both the topic of investigation and the research process. Includes a well-written description of background information of why the question(s) is (are) important and interesting. Answering the question(s) requires an advanced understanding of the subject matter.	

GLOBE Learning Expedition (GLE) Science Competition Rubric 2014

(48 Points Possible) See the document "2014 GLE Student Investigation Report Format" for more information

Score	Unsatisfactory - 0	Needs Work - 1	Fair - 2	Good - 3	Superior - 4	Score
3. Hypothesis	No hypothesis is included.	A brief hypothesis is included, but does not guide the research or is not testable or measurable.	A hypothesis is included, but it does not discuss how it is testable or measureable.	A hypothesis that proposes a possible explanation to some phenomenon, event, or scientific problem is clearly stated. The hypothesis mentions that it is testable but it does not define how it is measureable.	A well-written hypothesis that proposes a possible explanation to some phenomenon, event, or scientific problem is clearly stated. The hypothesis clearly defines how it is both testable and measurable.	
4. Student-led Investigation Plan	No investigation plan is included.	An investigation plan is included, but does not clearly explain the student roles, the collaboration team, or steps to complete the project.	Investigation plan includes a student-led research process. This includes developing a collaboration team of one of the following: a scientist, teacher, or additional students or support from another GLOBE school or steps to complete project are not listed nor clearly outlined.	Investigation plan includes a student-led research process, including defining the student roles and developing a collaboration team of two of the following: a scientist, teacher, additional students, or support from another GLOBE school. Steps to complete project are listed but not clearly outlined.	Investigation plan includes a student-led research process. This includes clearly defining the student roles and developing a collaboration team including: a scientist, teacher, and either additional students or support from another GLOBE school. Steps to complete project are clearly outlined, including a description of the collaboration process.	
5. Research Methods: Extent to which GLOBE Protocols are Incorporated	No GLOBE protocols are used or referenced (disqualification of paper).	Use of GLOBE protocols is only a small portion of the investigation, or use is not relevant to answering the research question.	GLOBE protocols are used, however, not enough data are presented to answer the question, or a considerable amount of the data included is not relevant to the question.	A combination of GLOBE protocols is used, and the data presented are sufficient to answer the research question.	Full advantage is taken of a combination of GLOBE protocols. There is a direct link provided between using the datasets to answer the research question.. The scope of research is fully detailed, including how the data were analyzed (e.g. time period, geographic area, or specific sites involved).	

GLOBE Learning Expedition (GLE) Science Competition Rubric 2014

(48 Points Possible) See the document "2014 GLE Student Investigation Report Format" for more information

Score	Unsatisfactory - 0	Needs Work - 1	Fair - 2	Good - 3	Superior - 4	Score
6a. GLOBE Data and Data Entry	No GLOBE data used in the project.	GLOBE data were collected for the project, but not entered into the GLOBE database. Data from other GLOBE school(s) were not included.	GLOBE data from other GLOBE school(s) are included in the project. GLOBE data were not entered into the GLOBE database.	Project uses GLOBE data and collected data are entered into the GLOBE database.	GLOBE data collected for project and entered into the GLOBE database. Data from other GLOBE school(s) are included in project. All sources of data not collected by submitting group are cited.	
6b. Data Summary: Use of Tables and/or Graphics for Data Display	Data are not presented in either tables or graphics (disqualification of paper).	Tables and/or graphics are present but do not accurately display the data used in the report or do not convey relevant information.	Tables and/or graphics are present and display some of the data used in the report, but they are not well labeled or are difficult to interpret.	Tables and/or graphics are present and display enough of the data to support the conclusion. Tables and/or graphics are mostly orderly, well labeled, and easy to interpret.	Tables and graphics are accurate and of high quality, are well presented, and display the data so as to enable the reader to easily grasp the key points of the paper.	
7. Data Analysis: Depth and Quality	No analysis of data performed.	Data analysis is performed but is too simple to address the research question, or is illogical, poorly explained, or disorganized. There is no mention or discussion of uncertainties or limitations present in the dataset.	An analysis of the data is performed that is appropriate to the research topic, but the analysis is incomplete, or is not clearly explained and presented. There is no mention or discussion of uncertainties or limitations present in the dataset.	A solid analysis of the data is performed. It is clearly explained and relevant to the research question(s). Sufficient mathematics and equations are presented to clearly define the analysis. Any uncertainties or limitations present in the dataset are mentioned but not discussed.	An insightful and meticulous analysis of the data is performed. It is scientifically valid, well explained, and completely addresses the question(s) posed to the extent possible for the grade level. Sufficient mathematics and equations are presented to clearly define the analysis. Any uncertainties or limitations present in the dataset are clearly stated and discussed.	

GLOBE Learning Expedition (GLE) Science Competition Rubric 2014

(48 Points Possible) See the document "2014 GLE Student Investigation Report Format" for more information

Score	Unsatisfactory - 0	Needs Work - 1	Fair - 2	Good - 3	Superior - 4	Score
8. Conclusion: Strength of Conclusion	No conclusion is present (disqualification of paper) or the conclusion is not relevant.	A conclusion is present and relevant to the report but is not supported by the data. No explanation is given for how these conclusions were developed.	A conclusion is present and supported by the data. No explanation is given as to how the conclusion was reached.	A conclusion is present and supported by the data. An explanation is given as to how the conclusion was reached, but the explanation is incorrect or lacks insight.	A thoughtful conclusion is present and supported by the data. A thorough and insightful explanation is given as to how the conclusion was reached. Additionally, recommendations for future research are included.	
9. Discussion of Measurement Limitations Including Possible Sources of Error	No discussion of measurement limitations, including possible sources of error.	A vague discussion of the limitations of the methods used is presented.	A clear but incomplete discussion of the limitations of the methods used is presented.	A clear and complete discussion of the limitations of the methods used is presented.	A clear, complete and insightful discussion of the limitations of the methods used is present and a description is provided explaining the significance of these analyses.	
10. Bibliography / Citations	No citations are included.	Materials used are cited, but citations are incorrect or incomplete.	A few materials used are cited, some citations are incorrect or incomplete.	Some, but not all materials used are cited, including any graphics, tables, or figures not created by students.	Materials used are cited completely and correctly, including any graphics, tables, or figures not created by students.	
11. Overall Report Presentation	Report is poorly presented and/or disorganized, and/or contains numerous spelling or grammatical errors. Report is missing more than two of the required elements.	Report is organized and well-presented, but contains greater than five spelling or grammatical errors. Report is missing more than one of required the elements.	Report is organized and well-presented, but contains greater than five spelling or grammatical errors. Report is missing one of the required elements.	Report is organized and well-presented and contains no more than five spelling or grammatical errors. Report is missing one of the required elements.	Report is well organized, neat and well-presented and contains no more than five spelling or grammatical errors. Report includes all the required elements.	
Total Score						