GLOBE Project Rubric

This GLOBE/NASA Project Rubric describes levels of proficiency from novice to advanced. The rubric is cumulative. Each level of proficiency builds on the prior level. The *italics* represent different or new language compared to the prior level. This rubric was designed to pair with the GLOBE/NASA Project Poster Template.

Teacher ID:	**Student ID:**	**Project Name:**			**Grade Level:**	**Date:**
Proficiency Level	**Novice**	**Developing**	**Proficient**	**Advanced**	**Notes**	**1 = Novice 2 = Developing 3 = Proficient 4 = Advanced**
Content Knowledge Is the use of content knowledge throughout the project accurate and relevant?	• Missing evidence of knowledge of facts and scientific concepts	• *Demonstrates partially accurate knowledge of facts, concepts, and scientific and engineering principles*	• Demonstrates accurate knowledge of *some* facts, concepts, and scientific or engineering principles *relevant to the project and covered in the GLOBE protocol(s) used*	• Demonstrates accurate knowledge of *most* facts, concepts, and scientific or engineering principles relevant to the project that are covered in the GLOBE protocol(s) used • *Demonstrates understanding of how facts, concepts, and scientific or engineering principles relate to the topic or phenomenon*		1, 2, 3, 4

Asking Questions & Developing a Hypothesis Is the question testable?	• A scientifically observable or testable question is absent • A hypothesis is absent	• Poses a research question that is *partially* scientifically observable or testable • A hypothesis *may be* absent	• Poses a research question that is scientifically observable or testable • A hypothesis *is present*	• Poses a research question that is scientifically observable or testable • A hypothesis is present. • *States the variables being observed*		1, 2, 3, 4

Planning and Carrying out Investigations What data were collected and how?	• GLOBE protocol(s) and/or GLOBE data are absent • A description of how the data were collected is absent	• *Investigation includes the use of one or more GLOBE protocols and/or GLOBE data sets* • *Investigation uses one or more variables*	• Investigation includes the use of one or more GLOBE protocols and/or GLOBE data sets • Investigation uses one or more variables, *identifying which variables are dependent and independent, as appropriate* • Provides a *description of the data and the methods used for collection including procedures, instruments used, time of day, and a map showing the locations of data collection sites*	• Investigation includes the use of one or more GLOBE protocols and/or GLOBE data sets • Investigation uses one or more variables, identifying which variables are dependent and independent, as appropriate • Provides a description of the data and the methods used for collection including procedures, instruments used, time of day, and a map showing the locations of data collection sites • *Explains why the GLOBE protocols and data sets used helped to answer the research question, and if appropriate highlights significant changes from the planned data collection.*		1, 2, 3, 4

Analyzing Data How were the data analyzed and visualized? What was found?	• Data analysis is missing • Findings not stated • Major issues or inaccuracies with graphs and tables	• Data analyses are attempted • Findings are *unclearly* stated • *Minor* issues or inaccuracies with graphs and tables	• Data analyses *are accurate* • *Describes procedures for data analysis* • Findings are *clearly* stated • *Accurate use of* graphs and tables • *Analyses are appropriate to answer the research question*	• Data analyses are accurate • Describes procedures for data analysis *and explains why the analyses are appropriate* • Findings are clearly stated • Accurate *and novel* use of graphs and tables • Analyses are appropriate to answer the research question		1, 2, 3, 4
Interpreting Data and Drawing Conclusions What conclusions were drawn and do the data support the conclusions?	• Provides incorrect or no explanations for how conclusions were reached.	• Provides vague explanations for how conclusions were reached.	• Explanations for how conclusions were reached *are supported by the data and analyses* • *Describes the significance of the research* • *Presents uncertainties and/or limitations in the datasets and analyses*	• Explanations for how conclusions were reached are supported by the data and analyses • Describes the significance of the research • Presents uncertainties and/or limitations in the datasets and analyses • *Recommends future research and/or next steps*		1, 2, 3, 4

Communication and Presentation [*optional*] Can the student effectively describe their work?	• Inappropriate use of body posture, language, voice, and timing for the topic and audience	• Body posture, language, voice, and timing *are appropriate* for the topic and audience	• Body posture, language, voice, and timing are appropriate for the topic and audience • *Responses to questions are sufficient but not necessarily precise, in-depth, and persuasive*	• Body posture, language, voice, and timing are appropriate for the topic and audience • Responses to questions *demonstrate mastery of the content and research process,* and are precise, in-depth, and persuasive		1, 2, 3, 4
Total						