

APPENDIX 6: ASSESSMENT RUBRICS**Rubric for the Assessment of Class Presentations**

Student Name(s) _____

Topic/Title _____

Criteria	Level 1	Level 2	Level 3	Performance Levels	
				Level 4	
Content	<input type="checkbox"/> No understanding of the topic was evident.	<input type="checkbox"/> Basic understanding of the topic was evident. <input type="checkbox"/> Student(s) did not relate the material presented to their own experiences.	<input type="checkbox"/> Good understanding of the topic. <input type="checkbox"/> Knowledge is thorough and detailed. <input type="checkbox"/> Student(s) attempted to relate the material presented to their own experiences.	<input type="checkbox"/> Excellent depth of understanding is evident. <input type="checkbox"/> Student(s) presented material that was further than what was required. Excellent research. <input type="checkbox"/> Student(s) showed how the material presented relates to their own experiences.	<input type="checkbox"/> Student(s) presented material that was further than what was required. Excellent research. <input type="checkbox"/> Student(s) showed how the material presented relates to their own experiences.
Interest and Enthusiasm	<input type="checkbox"/> Little interest and enthusiasm for the topic was displayed in the presentation.	<input type="checkbox"/> Some interest and enthusiasm was evident in the presentation. <input type="checkbox"/> The class was not very interested or enthusiastic.	<input type="checkbox"/> The presenters were clearly interested in their topic and their enthusiasm was quite evident. <input type="checkbox"/> The class was noticeably attentive during the presentation.	<input type="checkbox"/> The interest of the presenter(s) was exceptional as was their enthusiasm. <input type="checkbox"/> The class was keenly attentive during the presentation.	<input type="checkbox"/> The interest of the presenter(s) was exceptional as was their enthusiasm. <input type="checkbox"/> The class was keenly attentive during the presentation.
Organization of Material	<input type="checkbox"/> The information presented was confusing.	<input type="checkbox"/> The information was somewhat vague. <input type="checkbox"/> There was some organization.	<input type="checkbox"/> The information was clearly presented. <input type="checkbox"/> The presentation was well organized.	<input type="checkbox"/> All information was relevant and clearly presented. <input type="checkbox"/> The presentation was extremely well organized. <input type="checkbox"/> Main points were emphasized and reinforced with appropriate examples.	<input type="checkbox"/> All information was relevant and clearly presented. <input type="checkbox"/> The presentation was extremely well organized. <input type="checkbox"/> Main points were emphasized and reinforced with appropriate examples.
Use of Visual Aids	<input type="checkbox"/> Visual aids were not used.	<input type="checkbox"/> Visual aids were used. <input type="checkbox"/> Visual aids were not well done. <input type="checkbox"/> Visual aids used were somewhat relevant to the presentation.	<input type="checkbox"/> Visual aids were used. <input type="checkbox"/> Visual aids were quite well done. <input type="checkbox"/> Visual aids were relevant to the presentation.	<input type="checkbox"/> Strong visual aids were used. <input type="checkbox"/> Visual aids were extremely well done. <input type="checkbox"/> Visual aids were designed to emphasize and strengthen the presentation and were successful.	<input type="checkbox"/> Strong visual aids were used. <input type="checkbox"/> Visual aids were extremely well done with colour, clarity, and care. <input type="checkbox"/> Visual aids were designed to emphasize and strengthen the presentation and were successful.

*Teachers are reminded that this rubric would vary with the assignment and format of the presentation.

Rubric for the Assessment of a Research Project

Student Name(s) _____

Topic/Title _____

Criteria	Performance Levels			
	Level 1	Level 2	Level 3	Level 4
Source of Information	<input type="checkbox"/> Student(s) used only one source of information. <input type="checkbox"/> The information collected was not relevant.	<input type="checkbox"/> Student(s) used two sources of information. <input type="checkbox"/> The information collected was relevant to the topic but was not blended into a cohesive piece.	<input type="checkbox"/> Student(s) used a variety of sources. <input type="checkbox"/> The information collected was relevant to the topic and was somewhat organized into a cohesive piece.	<input type="checkbox"/> Student(s) used a wide variety of sources in a unique manner. <input type="checkbox"/> The information collected was relevant to the topic and was carefully organized into a cohesive piece of research.
Information Collected	<input type="checkbox"/> The information collected was not organized.	<input type="checkbox"/> The information was somewhat organized.	<input type="checkbox"/> The information was organized and contained recognizable sections.	<input type="checkbox"/> The information was organized and contained recognizable sections that included an introduction, a main body with supporting evidence, and a conclusion that summarized the report.
Presentation of Material	<input type="checkbox"/> The report was handwritten, contrary to established guidelines.	<input type="checkbox"/> The report was neatly handwritten. <input type="checkbox"/> The report contained a bibliography that was not correctly formatted.	<input type="checkbox"/> The report was typed. <input type="checkbox"/> The report contained graphics. <input type="checkbox"/> The report contained a bibliography that was not correctly formatted.	<input type="checkbox"/> The report was typed and appropriately formatted. <input type="checkbox"/> The report contained a title page. <input type="checkbox"/> The report contained relevant graphics. <input type="checkbox"/> The report contained a complete, correctly formatted bibliography.

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Rubric for the Assessment of a Decision-Making Process Activity

Student Name(s) _____

Topic/Title _____

Criteria		Performance Levels			
		Level 1	Level 2	Level 3	Level 4
Identifies Projected Impacts	Identifies Current Options	<input type="checkbox"/> Student(s) cannot identify an STSE issue without assistance.	<input type="checkbox"/> Student(s) have a basic understanding that an issue could have STSE implications, not necessarily differentiating among the four areas.	<input type="checkbox"/> Student(s) have a good understanding of a connection between an issue and its STSE applications. <input type="checkbox"/> Some evidence of awareness of an individual response.	<input type="checkbox"/> Student(s) have excellent depth and sensitivity in connecting an issue with its STSE implications. <input type="checkbox"/> A level of social responsibility is demonstrated.
Evaluates Current Options	Researches Current Issue	<input type="checkbox"/> Student(s) able to access a small amount of current research, with no evaluation of that research evident.	<input type="checkbox"/> Student(s) demonstrate some ability to recognize the positions taken in the research data, with no clear evaluative statements.	<input type="checkbox"/> Student(s) have secured an array of research, narrow in its scope, but clearly identify the positions taken. <input type="checkbox"/> Can offer personal opinions on issue, not necessarily evaluation.	<input type="checkbox"/> All acquired research of student(s) is current, relevant, and from a variety of perspectives. <input type="checkbox"/> Demonstrates insight into the stated positions, and can frame an evaluation.
Formulates Possible Options	Identifies Current Options	<input type="checkbox"/> Student(s) unable to clearly identify the possible options. <input type="checkbox"/> Can form options that are not clearly connected to the problem to be solved.	<input type="checkbox"/> Student(s) can offer at least one feasible option that is connected to the problem. <input type="checkbox"/> Other options may be more or less related directly to the problem.	<input type="checkbox"/> Student(s) develop at least two feasible options that are internally consistent, and directly address the problem. <input type="checkbox"/> Recognize that some options will fail.	<input type="checkbox"/> Student(s) display level of sophistication of feasible options that is beyond expectations. <input type="checkbox"/> All options demonstrate a reasonable chance of succeeding at being chosen.
Identifies Projected Impacts	Identifies Current Options	<input type="checkbox"/> Student(s) not able to foresee the possible consequences of the options selected. <input type="checkbox"/> There appears to be a naïve awareness of consequences.	<input type="checkbox"/> Student(s) identify potential impacts of decisions taken in a vague or insubstantial way. <input type="checkbox"/> Most of the feasible options are viewed as having projected impacts.	<input type="checkbox"/> Student(s) identify potential impacts of decisions taken in an organized way. <input type="checkbox"/> All of the feasible options are viewed as having projected impacts: some beneficial, some not.	<input type="checkbox"/> Student(s) are capable of offering a cost/benefits/risks analysis of each feasible solution. <input type="checkbox"/> Construct an organized report that clearly outlines the impacts of each.

Rubric for the Assessment of a Decision-Making Process Activity (continued)

Student Name(s) _____

Topic/Title _____

Criteria	Performance Levels			
	Level 1	Level 2	Level 3	Level 4
Selects an Option and Makes a Decision	<ul style="list-style-type: none"> <input type="checkbox"/> Unable to come to a decision that clearly connects with the problem to be solved. <input type="checkbox"/> Requires direction from the outside to make a choice. 	<ul style="list-style-type: none"> <input type="checkbox"/> Can identify a feasible option, but is faced with the inability to clearly decide on a plan. <input type="checkbox"/> Still requiring outside influences to stand by a decision to proceed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Clearly selects an option, decides on a course of action, but others can identify that a better course of action remains untried. <input type="checkbox"/> Recognizes potential safety concerns. 	<ul style="list-style-type: none"> <input type="checkbox"/> A thorough analysis of all options was done collaboratively. <input type="checkbox"/> Decision was firm, justified by the research base, and recognizes most of the safety concerns.
Implements the Decision	<ul style="list-style-type: none"> <input type="checkbox"/> Unable to fully implement the decision, but there remains opportunity to modify it. <input type="checkbox"/> Decision lacks the clarity to proceed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Implements the decision with a recognition that not all details are laid out in advance. <input type="checkbox"/> Some lack of clarity in having a plan for implementation. 	<ul style="list-style-type: none"> <input type="checkbox"/> Implements with some visible clarity of purpose. <input type="checkbox"/> Confidence is demonstrated that the plan will be one that can be of a scientific inquiry approach. 	<ul style="list-style-type: none"> <input type="checkbox"/> Implements a plan with visible clarity of purpose, backed by the research base. <input type="checkbox"/> It is clearly demonstrated that the plan will be one that can be carried to completion as inquiry.
Identifies and Evaluates Actual Impacts of Decision	<ul style="list-style-type: none"> <input type="checkbox"/> Unable to clearly recognize more than one possible actual impact. <input type="checkbox"/> Cannot effectively evaluate the effects of the decision(s) taken. 	<ul style="list-style-type: none"> <input type="checkbox"/> Can clearly recognize more than one possible actual impact for the decision taken. <input type="checkbox"/> Cannot effectively evaluate the effects of the decision(s) taken in most instances. 	<ul style="list-style-type: none"> <input type="checkbox"/> Able to recognize and comment upon the actual impacts observed. <input type="checkbox"/> Some ability in evaluating the impacts of the decision. 	<ul style="list-style-type: none"> <input type="checkbox"/> Able to recognize and comment deeply upon the actual impacts observed, noting unforeseen or unique outcomes. <input type="checkbox"/> Facility in evaluating the impacts of the decision.
Reflects on the Decision Making and Implementation of a Plan	<ul style="list-style-type: none"> <input type="checkbox"/> Begins to demonstrate an awareness of the need to review the plan. <input type="checkbox"/> A reluctance to consider a re-evaluation of the plan. 	<ul style="list-style-type: none"> <input type="checkbox"/> Reflects and intends to communicate the results of the implementation plan. <input type="checkbox"/> Has some difficulty in how to proceed with a re-evaluation of the problem-solving plan. 	<ul style="list-style-type: none"> <input type="checkbox"/> Reflects upon and does communicate the results of the implementation plan. <input type="checkbox"/> Recognizes how to proceed with a re-evaluation of the problem-solving plan. 	<ul style="list-style-type: none"> <input type="checkbox"/> A higher order synthesis was visible in the reflection process. <input type="checkbox"/> Evidence of a sophisticated environmental awareness that informs this post-implementation period.

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Lab Report Assessment

Project Title _____ Date _____

Team Members _____

Area of Interest	Possible Points	Self	Teacher
Formulates Testable Questions: Question is testable and focussed with cause-and-effect relationship identified.			
Formulates a Prediction/Hypothesis: Independent and dependent variables are identified and the prediction/hypothesis clearly identifies a cause-and-effect relationship between these two variables.			
Creates a Plan: All steps are included and clearly described in a logical sequence. All required materials/equipment are identified. Safety considerations are addressed; major intervening variables are controlled.			
Conducts a Fair Test and Records Observations: There is evidence of repeated trials and the inclusion of all data. Detailed data are recorded, and appropriate units are used; data are recorded in a clear/well-structured/appropriate format for later reference.			
Interprets and Evaluates Results: Patterns/trends/discrepancies are identified. Strengths and weaknesses of approach and potential sources of error are identified. Changes to the original plan are identified and justified.			
Draws a Conclusion: Conclusion explains cause-and-effect relationship between dependent and independent variables; alternative explanations are identified; hypothesis is supported or rejected.			
Makes Connections: Potential applications are identified and/or links to area of study are made.			
Total Points			

Observation Checklist—Scientific Inquiry: Conducting a Fair Test

Project Title _____ Date _____

Date _____

Note: A group of students can be selected as a focus for observation on a given day, and/or one or more of the observational areas can be selected as a focus. The emphasis should be on gathering cumulative information over a period of time.

Rubric for Student Presentation

Student Name(s) _____

Topic/Title _____

Criteria	Performance Levels			
	Level 1	Level 2	Level 3	Level 4
Organization	<input type="checkbox"/> Presentation shows poor organization and lack of preparation.	<input type="checkbox"/> Presentation shows signs of organization but some parts do not seem to fit the topic.	<input type="checkbox"/> Presentation is organized, logical, and interesting.	<input type="checkbox"/> Presentation is very well organized, logical, interesting, and lively.
Preparation	<input type="checkbox"/> Some student preparation is shown.	<input type="checkbox"/> A fair amount of student preparation is shown.	<input type="checkbox"/> An adequate amount of student preparation is shown.	<input type="checkbox"/> A great deal of student preparation is shown.
Content	<input type="checkbox"/> Small amount of material presented is related to the topic.	<input type="checkbox"/> Some material presented is not related to the topic.	<input type="checkbox"/> Almost all material presented is related to the topic.	<input type="checkbox"/> All material in the presentation is related to the topic.
Language	<input type="checkbox"/> Language used is hard to follow and understand.	<input type="checkbox"/> Some language used is hard to follow and understand.	<input type="checkbox"/> Most language used is easy to follow and understand.	<input type="checkbox"/> Language used is well chosen, easy to follow and understand.
Format	<input type="checkbox"/> Poor use of aids and support materials (diagrams, overheads, maps, pictures); does not support the topic.	<input type="checkbox"/> Adequate use of aids and support materials; most support the topic.	<input type="checkbox"/> Good use of aids and support materials; almost all support the topic.	<input type="checkbox"/> Excellent use of aids and support materials; all aids support the topic.
Delivery	<input type="checkbox"/> Many words are unclear; voice is monotonous; spoke too quickly or slowly; no pausing for emphasis; voice is too low to be heard easily.	<input type="checkbox"/> Some words are unclear; voice is somewhat varied; spoken too quickly at times; some pausing for emphasis; voice is sometimes too low to be heard easily.	<input type="checkbox"/> Most words are clear; voice is often varied, interesting, generally spoken at the correct speed; frequent pausing for emphasis; voice is loud enough to be heard easily.	<input type="checkbox"/> Words are clear; voice is frequently varied, interesting, generally spoken at the correct speed; effective pausing for emphasis; voice is loud enough to be heard easily.
Audience	<input type="checkbox"/> Audience is not involved or interested.	<input type="checkbox"/> Audience is somewhat involved, sometimes interested.	<input type="checkbox"/> Audience is involved and interested.	<input type="checkbox"/> Audience is very involved and interested.

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Rubric for Research Skills

Student Name(s) _____

Topic/Title _____

Research Skills	Performance Levels			
	Level 1	Level 2	Level 3	Level 4
Ability to formulate questions to identify problems for research purposes	<input type="checkbox"/> Shows limited ability	<input type="checkbox"/> Shows some ability	<input type="checkbox"/> Shows general ability	<input type="checkbox"/> Shows consistent and thorough ability
Ability to locate relevant primary and secondary sources of information	<input type="checkbox"/> Unable to locate	<input type="checkbox"/> Somewhat able to locate	<input type="checkbox"/> Generally able to locate	<input type="checkbox"/> Always or almost always able to locate
Ability to locate and record relevant information from a variety of sources	<input type="checkbox"/> Unable to locate and record	<input type="checkbox"/> Somewhat able to locate	<input type="checkbox"/> Generally able to locate and record	<input type="checkbox"/> Always or almost always able to locate and record
Ability to organize information related to identified problem(s)	<input type="checkbox"/> Shows limited ability	<input type="checkbox"/> Shows some ability	<input type="checkbox"/> Shows general ability	<input type="checkbox"/> Shows consistent and thorough ability
Ability to analyze, synthesize information related to identified problems	<input type="checkbox"/> Shows limited ability	<input type="checkbox"/> Shows some ability	<input type="checkbox"/> Shows general ability	<input type="checkbox"/> Shows consistent and thorough ability
Ability to communicate results of inquiries using a variety of appropriate presentation forms (oral, media, written, graphic, pictorial, other)	<input type="checkbox"/> Unable to communicate	<input type="checkbox"/> Somewhat able to communicate	<input type="checkbox"/> Generally able to communicate	<input type="checkbox"/> Always or almost always able to communicate

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