Appendix A: Power In The Wind Rubric

Group Name: _____
Student Names: _____

?	Standard	1	2	3	4
Factors to consider for working responsibly.	EMS-1 Accepts responsibility for materials and personal belongings	The student is not able to exercise self control and uses materials in a way that is not specified in written or oral directions.		The student is able exercise self control and manage and use materials only as directed.	
Factors to consider for collaboration.	EMS-4 Effectively communicates and collaborates with peers.	Does not contribute to the work and does not work well with group members.	Works well most of the group members. Contributes some.	Works well with the group members. Is a contributor.	Takes the lead and works well with group members. Is a strong contributor.
Factors to consider for the final presentation: I include quality of the information presented, visuals, resources appropriately cited, as well as presentation skills such as speaking and answering questions.	Literacy RST 6-8.7 Integrates quantitative or technical information expressed in words in a text with a version of that info expressed visually in a flow chart, diagram, graph, model or table.	The student needs much help to integrate, interpret data and communicate technical information and has included no visuals and does not have an understanding of the topic. A list of resources is not included.	The student needs help to integrate, interpret data and communicate technical information and has included at least one visual to demonstrate a knowledge of the topic. A list of resources is included, but there are errors in the format.	The student is able to integrate, interpret data and communicate technical information and has included at least two visuals to demonstrate a general knowledge of the topic. An accurate list of one or more resources is included.	The student is able to integrate, interpret data, and clearly communicate technical information and has included at least three visuals to show a deep understanding of the information. An accurate list of two or more resources is included.
Factors to consider for the redesign.	NGSS-1 Asking questions and defining problems.	Student has constructed only one turbine and has not gone through the design cycle.	Student has constructed two turbines, but power produced was low or one design did not produce any power.	Student has constructed two turbines which were both able to produce power.	Student has undertaken three or more turbines builds. Each was successful and generated power.
Factors to consider for analyzing and interpreting data.	NGSS-4 Analyzing and interpreting	The student needs much help to analyze	The student needs help to analyze and	The student is able to analyze and interpret	The student is able to analyze and interpret

(Engineering skills)	data/	and interpret data and/or provides information that is has no detail.	interpret data and/or provides information that lacks detail.	data and provides information that demonstrates a general knowledge of the topic.	data and use inferencing or prior knowledge to show a deep understanding of the information.
Factors to consider for math and computational thinking.	NGSS-5 Using mathematics and computational thinking.	Student has not shown the ability to practice mathematics and computational thinking by creating a drawing of some of the turbine designs. Or the student did not produce any drawings of the designs..	Student has shown the ability to practice mathematics and computational thinking by creating a drawing of some of the turbine designs.	Student has shown the ability to practice strong mathematics and computational thinking by creating a drawing of all turbine designs.	Student has shown the ability to practice excellent mathematics and computational thinking by creating a scale model drawing of all turbine designs.
Factors to consider for the entire design process.	NGSS Practice 6 Constructing explanations (science) and designing solutions (engineering.)	Student explanations are incomplete or not accurate. There is little evidence of scientific thought regarding the solution to the problem.	Student explanations are misleading or inaccurate. There is minimal evidence of scientific thought regarding the solution to the problem.	Student explanations are complete or mostly accurate. There is evidence of scientific thought regarding the solution to the problem.	Student explanations are very complete and accurate. There is much evidence of deep scientific thought regarding the solution to the problem.

Students will be evaluating their own performance and that of their group members at the end of the final presentations.