Students' Rubric for Designing Solutions to Engineering Challenges			
Criteria	**Meets Expectations**	**Approaching Expectations**	**Needs Improvement**
Unpack the Problem	Student describes the problem using discipline-specific language of science and engineering; descriptions include evidence from inquiry-based labs and online research.	Student describes the problem using the discipline-specific language of science and engineering but shows little evidence of research and investigation.	Student does not accurately describe the problem, nor show evidence of research.
Imagine Solutions	Student models at least three examples of research-informed solutions, with clear written descriptions of how these solutions could address the problem.	Student models at least two examples of research-informed solutions, with clear written descriptions of how these solutions could address the problem.	Student models only one solution, with no written explanation of how it could address the problem.
Build Prototype	Student selects most promising model, based on feedback from their engineer mentor, to construct a working prototype that addresses the problem.	Student constructs a prototype that does not thoroughly address the problem.	The student does not construct a working prototype.

Test and Evaluate Prototype	Student conducts multiple tests, collecting quantitative and/or qualitative data on the effectiveness of the solution; student documents ways to improve prototype.	Student conducts multiple tests but collects limited quantitative and/or qualitative data on the effectiveness of the solution; student provides limited documentation of how they will improve prototype.	Student conducts few tests, collecting limited quantitative or qualitative data on the effectiveness of the solution; student does not document ways to improve prototype.
Communicate Engineering Design Process	Student clearly communicates their understanding of the problem, rationale for designing prototype, and how their prototype effectively addressed the problem. They are also able to discuss the potential benefits and limitations to their proposed solution.	Student clearly communicates their solution but provides limited detail to their rationale for design and its relationship to the problem.	Student is unable to communicate their process for designing a solution to the problem.